MAR. 59

The TECHNOCRAT

PUBLICATION OF TECHNOCRACY INC. • LOS ANGELES • CALIFORNIA

IN THIS ISSUE:

- How Costly Is Culture?
- 'The Consent of the Governed'
- 'World's Largest Truck'
- Re-Design or Face Disaster
- News of the Organization

NEWS MAGAZINE

Whole No. 189

25 CENTS

The TECHNOCRAT

MARCH, 1959

Editorial

New Fascist Regime for Cuba

FIDEL CASTRO, a fascist reactionary rebel in Cuba, has won out in a civil war against the incumbent fascist dictator, Fulgencio Batista. Castro had the open support of the Roman Catholic Church and most American reactionaries. He had the consent (at least) of the State Department and other governmental agencies. Somehow, he received plenty of arms, and they did not come from Russia. On the other hand, arms shipments from the U. S. to Batista were shut off last March. The new Castro government was recognized by the State Department within 48 hours of the takeover of power. Fascist type extermination of the opposition by mass executions was instituted and still continues — just a quaint old Latin American custom, ho hum, insofar as the State Department is concerned. (Contrast this with the reaction of 'horror' which was displayed over the few executions in Hungary following the attempted counter-revolutionary uprising there two years ago.) Castro received very favorable press, radio, and television treatment in the United States, which should have been a tip-off to those who believed that Castro was a revolutionary. Against loose accusations that the Castro rebels were 'communist' led, was the clinching argument that they were Roman Catholics and that they wore their rosaries and crucifixes alongside their hand grenades.

Batista, in a similar but smoother manner, on March 10, 1952, gained command of the Cuban government by force and held it with a reign of terror, in which tortures and executions were routine. While in office, he milked the Cuban economy for tens of millions of dollars (another quaint Latin American custom). He, likewise, was recognized by the State Department immediately after taking over, and was one of our darling fascist dictators until we decided to double-cross him for Castro. . . . *Cuba is still desperately in need of a real revolution.*

MIKOYAN TAKES 'HOLIDAY' IN U.S.

RUSSIAN Deputy Premier Anastas Mikoyan took what was officially billed as a two-weeks holiday trip to and around the U. S. A. He was received with mixed emotions, with those of the State Department and most editorial offices being particularly hostile. Foreign refugee elements were 'permitted' to harass him with openly violent attacks in those cities whose police departments are Catholic dominated. Only when this discourtesy began getting bad publicity around the world was it subdued. . . . At first, it was believed that Mikoyan had come to America to present Russian concessions in the Cold War; instead, he merely spoke in favor of peace and offered no deals. This angered both the State Department and the reactionary press, both of whom began snarling at him prior to his departure. Peace, for a variety of reasons, is the one thing the United States cannot accept at any price. . . . At all times, Mikoyan handled himself with dignity and restraint, which is more than can be said for the Press and Radio reporters, particularly those on the CBS program 'Meet the Press.'

As a form of 'cultural exchange' there has been a flurry of small caliber American politicians and others visiting Russia recently — mainly to gain publicity buildups for themselves and to get some pictures of themselves with Russian backgrounds to illustrate 'authoritative' magazine articles on Russia.

The TECHNOCRAT is published quarterly by a Managing Board at 8113 S. Vermont Ave., Las Angeles 44, Calif. Entered as 2nd class matter April 12, 1938, at the past affice at Los Angeles, Calif., under the act of March 3, 1879. Subscriptian rates: 4 issues $1.00; 12 issues $3.00.

How Costly Is Culture?

The world of today is a world of physical reality; and, in view of the growing magnitude of social operations, it must be assessed in terms of reality, not in terms of some cultural efflorescence.

WHEN we note the seriousness of the problems which confront modern man, as individuals, as nations, and as a species, we may be inclined to ask, how come? Man is the dominant animal on earth, by far; he has knowledge and techniques which greatly facilitate the mechanics of living; and he has an intelligence and ingenuity which far exceed those of any other animal. Then, why cannot he get along in the world and with other humans? Is it a matter of basic living? Or is it due to some cultural efflorescence?

First, let us consider the basic fundamentals of living to see, if we can, whether or not the problem lies there. Could it be a natural consequence of man's animal nature?

Basically, and in all biological aspects, man is an animal. But he is a distinctive kind of animal. He has some advantages and some disadvantages over other animals; but the advantages far outweigh the disadvantages in the struggle for survival. Man's alimentation, circulation, endocrinology, reproduction, and pathology are highly similar to those of other animals, particularly the animals of the same class to which man belongs, the mammals. In fact, there are very few biological features that man can claim as his own, and the majority of these are of negative import. Most of his protective hair covering has disappeared and the remainder has become patchy; his dentition is weak and generalized; he has no effective armament or other bodily protection, whether on the head, in the teeth, on the digits, or on the skin; his digestive system is simple and generalized. The more distinctive features are: prehensile hand on his fore-limbs; upright posture, with body balanced on the hind limbs; much enlarged brain; receding jaws in the dental region; permanently enlarged mammary glands in the adult female; susceptibility and immunity to certain specific diseases. The rest of his general features are shared with many other animals. The large size of the offspring at birth, particularly its enlarged head which is necessitated by the enlarged brain, tends to make its birth difficult and hazardous for both the offspring and the mother. The slow development of the infant to maturity requires an abnormally long period of care and protection by the adults.

Man's survival through the ages has not been due to greater physical prowess, to better armament or protection on his body, to faster speed or greater endurance, nor to prolific reproduction; rather, it has been due entirely to his superior intelligence (primarily) and to his collective life and activities (secondarily). *Man's minimal living requirements are*, in general, *similar to those of other animals.* And we may presume that our primitive ancestors lived much like wild animals for millions of years.

Dead-end Diversions

The wild animals in nature concentrate on the biological requirements of living, and they have little interest in, or capacity for, the 'higher things' of life, such as culture. They eat, sleep, rest, play, protect themselves from enemies and unfavorable weather, and reproduce. Man does the same things, but he doesn't give his whole attention to them. His intelligence enables him to proliferate his interests and activities into many fields. *Most of these 'adventures' are dead-end diversions insofar as the advancement of the welfare of the individual or the species is concerned.* But they may be of extreme subjective importance to the individual or his group; and he will defend them vigorously. In fact, a closer study will show that the great majority of man's 'advanced' interests lead to social

mischief, while *only a small minority of them result in social benefit.*

It is the intellectual and emotional interests (along with their physical sequelae) which extend beyond the demands of basic living, that constitute cultural efflorescence.

We note a few simple beginnings of culture among the lower animals. One of the basic requirements is that of acquiring food. Some animals meet this requirement by gathering food items and storing them for future use. But in some cases, they exceed the biological demands and hoard either an excessive surplus or a collection of items that have no utility significance to them; for example, the Pack Rat will hoard pieces of metal, glass, and other bright objects. Domestic cats, in a place where mice are plentiful, sometimes kill more than they can eat; the extra killings, we may surmise, are 'just for fun.' Hence, we find that culture is not entirely a human monopoly; however, man goes for culture in a much bigger way than any other animal.

Victim of Culture

One of man's basic needs is food. In this respect, man is fortunate in that he is omnivorous —he can eat almost anything and derive nourishishment from it. He can live entirely on vegetable matter, or he can live entirely on animal matter, or he can derive most of his nourishment from 'lower' forms of life, such as algae, fungi, insects, mollusks, and such; but, he seems to thrive best on a mixture of foods. Individually, human beings may have specific physiological tolerances and intolerances regarding certain food items; or they may have conditioned manias, phobias, inhibitions, or fixations regarding specific items or classes of food material or regarding the ways in which it is prepared for eating. But on the whole, it is remarkable what human beings can eat and thrive on; the range of tolerance is very great. The body is able, also, to make extensive adaptations to the environmental limitations and dietary idiosyncracies of the consumer. Unless one's diet is seriously lacking in some essential element of nutrition, his physiology is able to make the proper adaptations. Over-eating by those who have efficient processing and storage functions is probably the most conspicuous dietary fault of modern man, particularly in the food-plentiful areas.

Hence, *the problem of supplying adequate food to the population of any area, barring excessive overpopulation, is not an insurmountable problem;* and it need not be expensive. Yet, some areas suffer from food deficiency even though they are not heavily overpopulated. In such places, *it is due either to inefficient means of operation or to culture.* The food-deficiency of such areas as Latin America, Africa, the Middle East, and India is due in major part to primitive, careless means of production; although, even there, culture plays a significant role. Food scarcity in the United States and Canada, where it occurs, is due almost entirely to culture; primarily, in the form of the commercial arts, and, secondarily, in the form of complications arising out of traditional and superstitious observances. *In North America, a citizen may go hungry or even starve to death, not because food is lacking in the area, but, because he is a victim of culture.*

With respect to food, culture also operates to complicate the problem in other ways. For example, one aspect of culture deals with appetite titillation. For many people, plain nourishing food simply prepared is not adequate; it must also have 'appetite appeal.' Gourmets and sedentary people, particularly, feel the need for costly and exotic appetizers. Housewives are beseeched from every side to make their servings 'tasty.' Food costs soar accordingly. In the 'better homes,' it has also become fashionable to waste considerable amounts of food. Only certain 'choice' parts of meat and vegetables are considered worthy of consideration; the rest goes into garbage. For example, it is fashionable in some places to eat only certain portions of slaughtered animals; the rest is rejected, and it can go to rot insofar as the human denizens are concerned. It is also customary in many households to over-supply the immediate requirements of the dining room, then, to discard the leftovers. These cultural tendencies sometimes arise from efforts to satisfy finicky or pampered appetites, while other times they constitute a form of economic ostentation, which is also a form of culture.

It may be surprising to some what the sustenance diet of certain elements of the world's population consists of. *And it would certainly be surprising to many North Americans to learn what an adequate, healthful diet could be supplied for in terms of economic costs when purely cultural considerations are omitted.*

Clothing is another of man's basic needs, at least in certain climates or during certain seasons. Primitive people in tropical and other warm, humid climates tended to reduce their clothing to a minimum. It was only when a 'higher' culture was introduced into those areas that they began covering themselves with uncomfortable clothing. In colder climates, the primitives depended for the most part on animal skins for clothing, which they needed for warmth. Attempts to use plant fibers began very early in man's rise above the animal level. With the discovery of knitting and weaving, plant fibers and animal hair became a major source of clothing material. Today, clothing can be turned out in copious quantities throughout the world. Except in a few overpopulated, impoverished areas, *the problem of supplying adequate clothing to the population can be readily handled with respect to its basic physical aspects.*

A Dead Drag

But clothing has suffered from cultural efflorescence even more than food. Adequate utility clothing, comfortable, functional and durable could be supplied to the world's people with little difficulty, using animals skins and fibers, plant fibers, and synthetic sheets, fibers, and batting, along with modern processing and manufacturing techniques. The difficulties arise from conditioned attitudes concerning clothing, including overdressing, stylishness, and merchandising practices. *Because of cultural factors in our society, serviceable utility clothing is difficult to find or is unobtainable. One is compelled to patronize the dispensers of culturized clothing.* Thus the problem of clothing becomes expensive, worrisome, and difficult for the individual and family. Commercialism and excessive stylization can be blamed for the major part of our clothing costs, including under commercialism the techniques of making goods shoddy for the purpose of early deterioration.

Man also needs shelter to protect him from predators and from hazards and discomforts of the weather, also to provide him with privacy. The essential demand of a shelter is that it create an internal environment that is favorable to man. This demand is very similar in all climatic zones, polar to equatorial. A dwelling, then, is an enclosure, shielded from external environment; and its most desirable features are temperature control, humidity control, and ventilation, while for added comfort it should also be vermin-proof and dust-proof. *Most human dwellings, even today, are far from ideal with respect to these features.*

Primitive man improvised crude shelters or dwellings which ignored one or more of the essential factors. The cottages of a later period were only slightly more functional. Even most modern dwellings offer but limited improvements on the cave, tent, or hut of the aborigines. In the colder climates, the emphasis is still on heating alone; in the warmer climates the emphasis is on ventilation, but only as a means of cooling. Most present-day housing has high-cost, inefficient heating; humidity control is non-existent; ventilation, or rather lack of it (in the winter time), is atrocious; vermin-proofing is lackadaisical and tedious but moderately effective; dust-proofing is almost unheard of; few houses are fire-proof. Yet, modern dwellings are excessively costly to construct and maintain.

As with clothing, the fault in dwellings is, first of all, excessive applications of culture. Cultural factors provide us with highly inefficient designs, shoddy high-cost construction, inefficient operation and maintenance, frequent style changes, and complex furnishings. *The modern American must spend a fourth to a third of his lifetime employment merely to provide himself with a mediocre dwelling; and his wife must spend at least as much of her time looking after it.* Still, the house is a piece of junk from an engineering viewpoint, however swank it may be with respect to chamber-of-commerce standards.

At a small fraction of the cost and maintenance of the typical American home, the people of the Continent could be very comfortably housed, with all the essential features of a dwelling fully provided and maintained; besides, a number of other services would be available, services which are seldom even considered today, such as child nurseries, tube delivery, news bulletins automatically 'printed' or taped in the home. Such housing, however, would be designed by engineers, not by architects, real estate promoters, or other cultural artists. At least nine-tenths of the most of housing today, individually and socially, must be attributed to culture rather than to utility requirements; and *this cultural cost is a dead drag on the economy.*

After the three basic requirements of food, clothing, and shelter, man desires various other services, among them transportation, communications, health care, recreation, and domestic service.

Early man provided these services for himself or went without. Transportation was by foot, occasionally supplemented by animals and crude carriers. Communication was by direct word of mouth or signal. Education was mostly practical, dealing with the learning of the chores incidental to survival. Health care was uncertain, being based on superstition for the most part rather than knowledge. The problems of health, thus, were corrupted by culture at a very early stage of social development and *there was no significant improvement until science entered into that field.* Treatment for sickness was often as dangerous as the affliction itself. (George Washington is supposed to have succumbed from 'bleeding' by his doctors.)

Function Secondary

If we examine transportation historically, we find that it has been very much handicapped by culture, especially if we consider civilian transportation as distinct from military logistics. In Europe, only gentlemen and ladies were permitted to ride horses. (In Spanish, the word *caballero* means gentleman; literally, it means horseman.) It was not until the last few centuries that the common man could avail himself of any kind of public transportation; for, culture had assigned him to the walking class. Even in the United States, much of the early migration, including transcontinental trips, was conducted on foot rather than on animals or in vehicles; all available wagon space had to be devoted to supplies and equipment.

Modern North Americans have greatly advanced the status of transportation over that of early times, both culturally and functionally. Transportation has become fast, effective, and relatively safe. But it has also become a luxurious mania, especially when considered in its usual form, the family automobile. *The functional uses of transportation has become secondary to its cultural efflorescence.* The average family must devote some ten per cent or more of its income just to keep in style transportationwise. Efficient utility transportation vehicles are practically non-existent; but high-cost monstrosities are the vogue. Cheap and effective public transportation is rapidly disappearing. For example, the railroads are trying to curtail or abandon passenger trains, after deteriorating service and increasing fares have deprived them of patronage. The airlines are still in the luxury class, as they must be considering their high-cost operation. A forty-passenger bus can be operated at only about twice the cost of a family car; but, due to commercialism, two people can still travel cheaper in a car than by bus. Boat transportation is either non-available or high-cost; yet, it could be the cheapest form of travel of them all.

In the field of communication, man has made remarkable progress in technique, but only slight progress in substance. Prior to the invention of the telegraph, communication was mostly by word of mouth, by messenger, or by post, supplemented in special situations with signals, such as drum beats, semiphores, smoke, or light flashes. In early times, most people did not communicate beyond their immediate vicinity. Since most of them could not read or write, there was little written communication; for, written messages involved the employment of a scribe to write and read the messages and the payment for delivery. Most news of the world and distant events was circulated by traveling bards and story-tellers, most of it acquired by them from other story-tellers. And such stories didn't *lose* anything from repeated retelling. Eventually, the stories in circulation were written up in the form of books and manuscripts, and these passed for historical documents. Propaganda, subjective adaptation, and dramatics played an important part in modifying history. Today, with widespread and instantaneous means of communication, it is still difficult to get a straight report of events — for the same reasons. Every cultural interest must exercise whatever powers of censorship it may possess on the dissemination of knowledge about the world and events within it. Consequently, it is very difficult to learn, for example, what went on in specific locations during World War II. *In the United States, news is heavily censored by the political administration, by the military, by chambers of commerce, by church hierarchies, by veterans organizations, by racist groups, and by the 'good people'; and it is further smothered by commercial advertising.*

World of Physical Reality

Other aspects of our living suffer similarly from the bindweeds, the ragweeds, and the morning glories of culture. Education, health, personal service, recreation, motivation, and conduct are all stultified with culture. When it comes to dealing with reality, *one has little choice between the frozen*

hardness of totalitarian tyranny and the soft, sticky quicksand of liberal arts.

The world of today is a world of physical reality; and, in view of the growing magnitude of social operations, it must be assessed in terms of reality, not in terms of some cultural efflorescence. The real problems of mankind are physical problems, and no amount of hocus-pocus will cause them to go away. The problem that is threatening to defeat the modern civilization is that of physical costs.

Under primitive conditions of human toil and hand tool techniques, the physical per capita costs were low; and it took many years for a population to despoil its area. And when spoilage of an area did occur, it was not due so much to the requirements of living as to cultural efflorescence. Warfare was lavish in its expenditure of timber and metals and was highly destructive of man's works. When wars were not wasting the produce, considerable effort was being expended on tombs, castles, and edifices dedicated to the prevailing deities. In the more settled of the ancient civilizations, a large portion of the adult males were lost to production and service through dedication to religious activities. Others were lost to the military forces. Consequently, the standard of living of the general population was low and the struggle for survival was severe.

In recent times, the common people have come to expect more than a minimal standard of living. They expect certain comforts, conveniences, and enhancements beyond what primitive man would tolerate. They expect to be somewhat choosey about the kind and quality of food they eat. They expect to be more-or-less fully clothed with textiles at all times, except under special circumstances of recreation and menial labor. They expect solid dwellings, with heat during cold periods and a flow of air through them during hot periods. They expect their dwellings to contain various items of furniture, particularly beds, stoves, tables, seats, and lamps. And they expect some kind of toilet facilities either in or near the dwellings. Many millions of people in the world fall short of this standard of minimal decency. *It's not because the world can't afford such a standard; but it is due in greater part to social customs and scheming which discriminates economically in the matter of distribution, giving lavishly to a few and sparingly to the many.* Only a small increase in efficiency of production and distribution would alleviate the impoverished populations of the world. Even the Chinese, long notorious for over-crowded populations and extreme poverty, are able, with a few basic improvements in technique and social living, to raise their standard of living considerably, in spite of a continued rapid increase in their population.

It is at this minimal standard of living that the people of North America begin to experience difficulty. The slums of large cities and many rural habitations fall below the borderline of this stage of advancement. *Our culture deprives them of a decent standard of living,* except as they are able to follow a prescribed formula; and this formula requires generous portions of luck and fortuitous circumstances.

Adds Nothing to Requirements

The general populations of North America, outside of the 'peons' of Latin America and the 'poor trash' of the United States and Canada, expect even further enhancements of their basic standard of living. They want adequate and appetizing food; they want new or undamaged clothing of a contemporary style, with several changes for different occasions and types of activity and for the sake of variety. They want a 'modern' house, with indoor plumbing and toilet, with electric lights and outlets, and a full set of furnishings; they want transportation, both local and long-distance; they want a yearly vacation; they want various drugs, tobaccos and liquors; they want some dental and medical attention; they want socialized education, mail service, and telephone; they want entertainment; and they want prompt news service, at least with respect to gambling and sporting events. At this level, cultural efflorescence begins to take its toll from the consumers in a conspicuous way. *Almost everything the individual and family wants must be purchased from the marketplace, which is dominated by business enterprise.* Hence, the markups in cost are terrific. Further, serviceable and functional utility items are either not available or are hidden out of sight behind gaudy, high-priced, shoddy items which provide greater profits to the manufacturers and dealers and less service to the consumers.

Cultural efflorescence is not a modern characteristic of the human species; for it began very early in man's prehistoric existence and, from simple beginnings, has developed in magnitude and ostentation.

One form of efflorescence has been that of collecting and cherishing baubles of various kinds. Pretty stones and pieces of polished wood; teeth, claws, scales, and other parts of animals; seeds and shells; artifacts of other peoples; manufactured items of little or no utility value — all of these, and more, have been gathered and cherished. Often such items were expensive to acquire, hazardous to retain, and costly to defend. Certain gem stones, for example, are notorious for the amount of blood that has been spilled over them. Yet, aside from certain exchange values, *such baubles play no part in improving the economic status of the individual owner or the society; rather, they usually prove to be a deficit due to the effort devoted to acquiring and protecting them.* Into this category falls those items which are collected and cherished for themselves with little or no reference to any utility factor. They are usually kept hidden away or locked in strong boxes; or, if of lesser value, kept around the premises as display items and conversation pieces. Some are supposed to have supernatural 'properties.'

Another form of efflorescence is that of ornamentation and decoration — things which are supposed to enhance the appearance of the person or his abode. *They add nothing to the basic requirements of living, only to the cost of living.* To a cretain extent, ornaments and decorations may contribute to the morale of the individual or the group; but, they tend to get out of hand, demanding ever more of one's effort and time in their acquisition, care, and accumulation. History records many examples of fortunes, even of kings and provinces, being squandered to enhance the grandeur of some tyrant or his favored female. This tendency can extend to fantastic pretensions, as in the case of the Taj Mahal, erected out of 'the blood and sweat and tears' of a whole province to glorify the memory of one woman. Elegance, in the form of ornamentation and decoration, has touched and debauched nearly every thing of use to the human race, running up the costs and removing it from mass participation. It can be seen in clothing, hairdos, jewelry, dwellings and their furnishings, transportation vehicles, in landscaping and gardening, in sports, country clubs, night clubs, dining rooms, and amusement halls, in domestic animals, servants and lackeys. *It pervades and exploits everything that is exposed to public gaze; and its costliness has no limits.*

As the world's population increases and moves up in its standards of comfort and health, *it will be necessary for cultural efflorescences to be de-emphasized and more attention and effort devoted to functional simplicity and efficiency.* Some forms of cultural ostentation are going out of fashion, such as in men's clothing; other forms are expanding, such as the family automobile. Conspicuous ostentation is, in general, being repudiated throughout the world, partly because of the excessive cost to the show-offs and partly because of resentment of the multitudes who cannot afford to participate in it at all.

For what it is worth, we may at this time cite an analogy from the biological world. Some half billion years ago, there dwelled a little animal in the oceans, now called the Brachyopod. It consisted of a body contained between a pair of simple shells hinged on one side and attached to a stem. This little animal later became very prominent in the seas of the world and developed into some highly complex and ornamental forms. For over a hundred million years, it went in for the most fantastic forms of ostentation. Today, the Brachyopod is no longer a prominent animal in the sea. It is small and very simple, not significantly different from its ancestors of half a billion years ago. The elegant forms vanished, leaving only fossil remains.

The Primary Objective

Certain of the cultural arts have a place in human civilization, but it is a subordinate place. Other forms of culture, among the most costly forms, are easily expendable; such as, commercialism, politics, and spook worship. Culture can be tolerated in future societies to the extent that it can be recognized as a superfluous efflorescence and not as an essential part of living and so long as its pursuit occupies only a minor fraction of the cost of social operations. Further, *it must not be permitted to interfere with that which is functional.* Only in that way can the people of the world, including those of the North American Continent, be able to look ahead to a future they can aford.

Technocracy specifies abundance for the people of North America. That applies to goods and services essential to life, health, and comfort. It does not apply to the satisfaction of cultural manias. However, many interests in culture can

be readily and cheaply satisfied by mass production methods. For example, replicas of historical paintings can be turned out by the millions at little cost; likewise musical renditions, postage stamps, coins, figurines. Since collectors' items will have no exchange value, we suspect that people will lose much of their interest in them, except the few who derive intense subjective satisfaction from them. Even then, we suspect that such interests will be mostly fulfilled from visiting public museums rather than from personal accumulations.

The Price System is by far the most costly cultural growth in our society; and, when that is excised, there will be a much better chance for other cultural excesses to diminish to tolerable levels. So, *the primary objective of all citizens should be the elimination of the Price System.* Not too much effort should be dissipated in attacking the details of culture, which is only a waste of effort. *The only way for a North American citizen to fight the Price System is through joining Technocracy and helping prepare for the New America.*

—Wilton Ivie

'The CONSENT of the GOVERNED'

The clear-cut social design of Technocracy differs radically from the cluttered confusion of our present politico-economic structure. Its end products would be vastly superior to the disproportionately-shared, mostly-bitter fruits of Price System operation.

THE title of this dissertation is taken from the Declaration of Independence of the United States. The sentence in which it appears reads as follows: 'That to secure these (certain unalienable) rights, Governments are instituted among men, deriving their just powers from the consent of the governed.'

It is intended that this useful phrase serve as a point of departure for a discussion of the differences between two concepts of social administration. The first is political government, now in universal use, whether as an elected government, an imposed government (of one or more individuals), or a hereditary government (such as a Monarchy). The second concept is functional control, as envisaged by Technocracy.

Under a monarchy or a dictatorship, the notions of one man (or woman) or the ruling group are the law of the land. The autocratic leadership is responsible to no one. An exception, of course, is the so-called constitutional monarchy, in which the king or queen serves largely as a symbol of unity.

An elected government rules by means of the opinions of a number of representatives of the populace. A state so governed is a republic. A democracy, strictly speaking, has a government in which all decisions are passed upon directly by all the people. Democracy, as such, can exist only in a very primitive community, where all members are equally informed on all the various problems that arise. As human societies become more complex in structure and operation, specialization becomes necessary. It is unavoidable that, as the saying goes, 'people get to know less and less about more and more.' As a result, the responsibility of government tends to become delegated to the politicians, the representatives of the population. The public affairs of United States and Canada, the two principal political entities of North America, are administered by representative governments, one of them under a constitutional monarchy.

The one characteristic that is peculiar to these varying forms of non-functional social control is that the individuals involved, and their actions in office, exist wholly apart from the proper work of the society. *Political government is superimposed on the phyical operations of the area.*

On the other hand, *functional control is*, by definition, *involved directly with the functional activity with which it is associated.*

Let us consider an illustration of these opposed positions. It is axiomatic that the production and service industries of a society exist for the benefit of the members of that society. Therefore, in the educational field, for example, the personnel and the facilities should be adequate in numbers and quality to provide the optimum educational opportunities for all, and the activities that are entailed should be carried on with the greatest possible efficiency. Today, under political control these objectives are not being achieved. Our schools come under the jurisdiction of local school boards made up of elected officials who are rarely, if ever, educational experts. The teachers and principals, who are qualified by training and experience, must operate not only within the economic restrictions of the artificial scarcities of the status quo but also circumscribed by the limitations of lack of knowledge and perspective on the part of the educationally-uninformed school board. *With functional control,* in an economy of abundance, *the educators as a group would be free to educate, to achieve the maximum potential of our material and human resources.*

Abundance for All

For an understanding of the significance of the functional method of social control that forms part of the social program of Technocracy, it is appropriate to consider the environment within which it is designed to operate. Technocracy proposes that the area of the North American Continent be run as a single, self-contained, social unit, the Technate of North America. This Continent has all the natural resources, the industrial equipment and the trained people needed to provide a very high standard of living for all its inhabitants. In other words, abundance for all is possible. *The Technate will make that possibility a reality.*

As there will be more than enough of everything for everybody, it would be impractical to withhold anything from anybody by means of differential incomes. In addition, differences in income to individuals would complicate accounting unnecessarily. Therefore, it is proposed that all adults receive equal income. Minors will receive incomes on a graduated basis according to age. Incomes will be distributed by means of Energy Certificates.* Money, which we use under the Price System, is not adequate for the job. The Certificate is non-transferable, non-cumulative and non-interest-bearing. The standard of living will be equivalent roughly to that provided today by a $100-per-day income, and it will be guaranteed for life. Incidentally, if you had a million dollars today and you invested it to earn three and two-thirds percent annual interest, your income therefrom would be a hair-breadth over $100 per day. To paraphrase a discredited political slogan—'Every man a millionaire!'

In turn, each citizen will contribute to the operation of society by working four hours a day, four days a week, 165 days in the year—between the ages of 25 and 45. He will be performing work of his own choosing. He will be trained in that work according to his capacity to absorb knowledge and acquire skill. By doing a good job he will gain prestige and earn the approval of his fellow citizens, thus fulfilling a need that exists in all of us.

The physical needs of a population can be grouped under six general headings: food, clothing, shelter, education, recreation and health care. The ample provision of these physical needs from birth to death makes possible also the enjoyment of the non-physical factors of a satisfactory life. Happiness may not be guaranteed in a Technate, but its pursuit certainly would be facilitated.

With the arrival of abundance, most of the activities carried out by a political government will be obsolete. (The most important job of any politician is to get into political office and to stay there. The ignominious tactics that are used around election time and the venality of machine politics in general are another story.) The principal function of a political government is to act as a referee, to settle the economic claims on society made by the various groups that make up our conglomerate Price System social structure. It is a case of the rich against the poor against the not-so-poor, one competitor against another, labor against capital, domestic producers against importers, legal gyps against illegal gyps, the Big Boys against 'the little guy,' one state or province against another, one country against another, race against race, bloc against bloc, indigents against

---

* *The Energy Certificate is described in detail in a booklet by that name published by Technocracy; it is available from any Technocracy unit.*

taxpayers, farmers against urbanites, inflation versus deflation, bus lines and truck companies versus railroads, railroads versus airlines, cooperatives versus individual enterprises versus corporations, conservationists versus exploiters, women versus men, brother against brother, me against you — everybody fighting for a 'place in the sun,' each wanting to increase what he has or merely to retain what he has, and the politicos looking for a payoff at every turn. Truly, *an anarchic picture.*

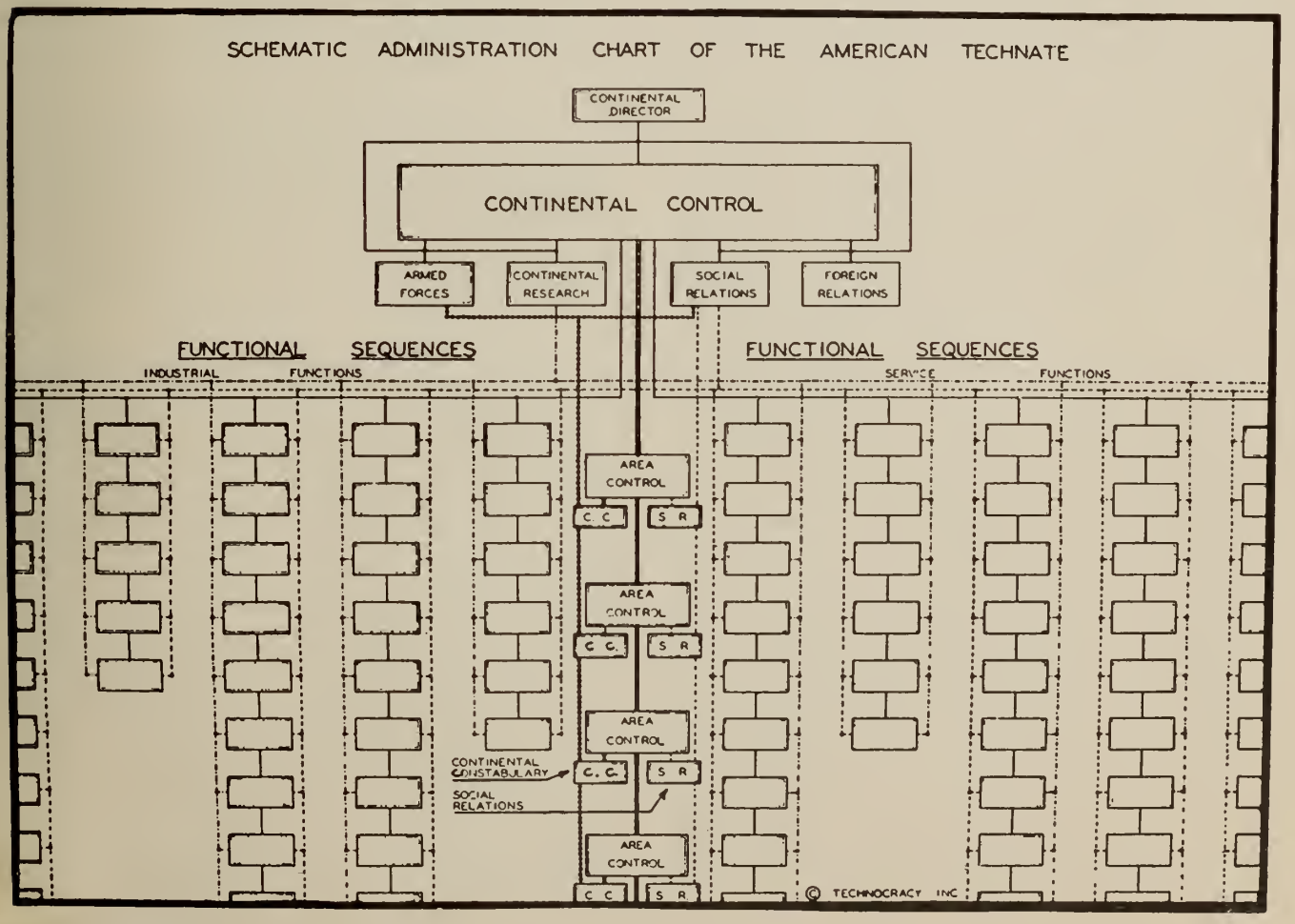
Consider, instead, the universally-beneficial efficacy of functional control. The basic unit of the social organization proposed by Technocracy is the Functional Sequence. A Functional Sequence is one of the larger industrial or service units, the various parts of which are related one to the other in a direct functional sequence.

Thus among the major Industrial Sequences we have transportation (railroads, waterways, airways, highways and pipe lines); communication (mail, telephone, telegraph, radio and television); agriculture (farming, ranching, dairying, etc.); and the major industrial units such as textiles, iron and steel, etc.

Among the Service Sequences are education (embracing the complete training of the younger generation) and public health (medicine, dentistry, public hygiene, and all the hospitals and pharmaceutical plants, as well as institutions for defectives).

Due to the fact that no Functional Sequence is independent of other Functional Sequences, there is a certain amount of arbitrariness in the location of the boundaries between adjacent Functional Sequences; therefore, their number, too, is arbitrary. There will probably be about one-hundred of them.

The schematic relationship showing how various Functional Sequences pyramid to a head and are there coordinated is illustrated in the accompanying chart. At the bottom of the chart on either side are shown schematically several Functional Sequences. In the lower left-hand corner there are shown five of the Industrial Sequences, and in the lower right-hand corner are five of the Service Sequences. In neither of these groups does the



size of the chart allow all of the Functional Sequences to be shown. On a larger chart the additional Functional Sequences would be shown laterally in the same manner as those shown here. Likewise each of the Functional Sequences would spread downward with its own internal organization chart.

Curbs Foolish Decisions

There are five other Sequences in this organization which are not in the class with the ordinary Functional Sequences that we have described. They are as follows: Continental Research, Social Relations, Armed Forces, Area Control and Foreign Relations.

The requirements of the job of research in a technological society render it necessary that all research in whatever field be under the jurisdiction of a single research body so that all research data are at all times available to all research investigators wishing to use them. This special relationship is shown graphically in the organization chart. The chief executive of this body, the Director of Research, is at the same time a member of the Continental Control (see below), and also is a member of the staff of the Continental Director.

Social Relations is another all-pervading Sequence which is related to the remainder of the organization in a manner similar to that of Continental Research. The nearest present counterpart is that of the judiciary. That is, its chief duty is looking after 'law and order,' or seeing to it that everything as regards individual human relationships runs smoothly. *Questions to be settled by this body would be investigated by the most impersonal and scientific methods available.*

Another of these special Sequences is the Armed Forces. The Armed Forces, as the name implies, embraces the ordinary military land, water and air forces, but most important of all, it also includes the entire internal police force of the Continent, the Continental Constabulary. By way of contrast to the present multifarious hodge-podge of police bodies, the Contitnental Constabulary is a single organization under one jurisdiction. While the Continental Constabulary is under the discipline of the Armed Forces, it receives its instructions and authorization for specific action from the Social Relations and Area Control.

This Sequence, the Area Control, is the coordinating body for the various Functional Sequences and social units operating in any one geographical area of one or more Regional Divisions. (A Regional Division is a geographical quadrangle bounded by two successive degrees of latitude and two successive degrees of longitude). The Area Control operates directly under the Continental Control.

The Foreign Relations Sequence occupies a similar position, except that its concern is entirely with international relations. All matters pertaining to the relation of the North American Continent with the rest of the world are its domain.

The Continental Director, as the name implies, is the chief executive of the entire social mechanism. On his immediate staff are the Directors of Continental Research, Social Relations, the Armed Forces, Area Control and Foreign Relations. Next downward in the sequence comes the Continental Control, composed of these five Directors together with the Directors of the Functional Sequences. This superstructure has the last word in any matters pertaining to the social system of the North American Continent. It not only makes whatever decisions pertaining to the whole social mechanism that have to be made, but it also has to execute them, each Director in his own Sequence. *This latter necessity*, by way of contrast with present political legislative bodies, *offers a serious curb upon foolish decisions.*

Authority to Act

Every individual will take his place within his Functional Sequence on the basis of merit, of proven ability. Whenever a vacancy occurs in any department, it will be filled by appointment from among those next highest in rank. Their superiors, who will be responsible for making the appointment, will be in the best position to understand the requirements of the job and to judge the qualifications of the persons being considered.

The only exception to this procedure of appointment from above occurs in the case of the Continental Director due to the fact that there is no one higher. The Continental Director is chosen from among the members of the Continental Control by the Continental Control. Due to the fact that this Control is composed of some 100 or so members, all of whom know each other well, there is no one better fitted to make this choice than they.

The tenure of office of every individual continues until retirement at the age of 45. The Continental Director is subject to recall on the basis of preferred charges by a two-thirds decision of the Continental Control. Aside from this, he continues in office until retirement.

Similarly in matters of general policy he is the chief executive in fact as well as in title. His decisions can be vetoed only by a two-thirds majority of the Continental Control.

It will be noted that the above is the design of a strong organization *with complete authority to act.* The purpose of the organization is to operate the social mechanism of the North American Continent. It is organized along the lines that are incorporated into all functional organizations that exist at the present time, such as the operating staff of a railroad, a telephone system, a medical center, and so on. Its membership comprises the entire population of the North American Continent. Its physical assets with which to operate consist of all the resources and equipment of the same area.

A Governance of Things

The clear-cut social design of Technocracy differs radically from the cluttered confusion of our present politico-economic structure. Its end products would be vastly superior to the disproportionately-shared, mostly-bitter fruits of Price System operation. Inefficiency would be suspended by efficiency, political and financial manipulation would be replaced by technological accounting methods, scarcity would give way to abundance.

Having equal purchasing power, each individual would have an equal voice in what was to be produced. Every working man and woman would have a voice in the manner in which his Functional Sequence operated, according to his position of function and responsibility within that Sequence. His position, in turn, would be in accordance with his demonstrated ability. The top men of each of the Functional Sequences, the Continental Control, would have the job of coordinating the entire social structure. Technocracy means, literally, government by skill. *It would be a governance of things, rather than a regimentation of people.*

An internal policy directed toward the achievement of the maximum general welfare requires an external policy aimed at the same objective. As stated above, this is the responsibility of the Foreign Relations Sequence. In order for us to stay alive, it will be necessary to avoid the mutual annihilation of nuclear warfare. At the close of World War II, Technocracy contended that world peace could only be ensured and enforced by an offensive and defensive alliance of the two great contiguous continentalisms of the world, the Continent of North America and the Union of Soviet Socialist Republics. Today such an alliance would probably have to include the People's Republic of China, because of its military and technological potential if not its present strength. (At present, neither party of the two-party political setup in the United States proposes even to recognize the government of that country). *It is a matter of co-existence or co-extinction.*

As the operation of the Technate will require the cooperation of all functional people, it could not run without 'the consent of the governed.' But, more than that, the transition to this new form of society will come about not merely with 'the consent of the governed' but as a result of popular demand, either through a new mass movement or by influence on the incumbent leadership. *Technocracy predicts that this popular demand will rise as a result of our present economic system being unable to cope with the plenty produced by our technology.*

We here (and people everywhere) live under a Price System. A Price System is a social system that effects distribution of goods and services by means of a system of trade or commerce based on commodity valuation and employing any form of debt tokens, or money.

Stated briefly, Technocracy is pointing out that our industrial and agricultural production in North America today is so great that the resultant near-abundance is beyond the capability of a Price System to distribute. That this is so is evident from the rapidly-recurring, ever-worsening recessions and depressions that plague our economy. What is required is a non-price system, a Technocracy.

The irreversible trends rendering social change more and more imminent will become increasingly obvious to greater numbers of people on this Continent. Exactly how the Technate may be achieved, only the future can tell. The position of the Organization, Technocracy Incorporated, is somewhat analogous to that depicted in the Bible story of Noah and the Ark. Noah had advance (revealed) knowledge of impending crisis and he set about getting ready for it. Technocracy's findings indicate a threat to the limits of social tolerance in the

near future, and *it is doing all it can to prepare the public for the next most probable state of society in North America.*

Technocracy is not a political party; it does not seek political office; it has no assumption-of-power theory. It is an educational and research organization concerned with the social effects of technology. It has analyzed the North American Price System and found it moribund. *It has synthesized a social system that meets the requirements of this technological age.* And its members are making its findings known to the people of this Continent.

Pointing the Way

Technocracy is pointing the way. The sovereign people of this area of the globe will have to decide for themselves if and when they wish to make the break with anarchy and advance to the New America. Faced with the necessity of having to make a definite decision, the faint-hearted might conceivably wish for a gradual change rather than a quick change. They may be confronted with the fact that it will take about twenty years to effect the transition; setting the Technate into full-scale operation will not be an overnight job. But, obviously, if analysis 'reveals' that it is going to 'rain for forty days and forty nights,' one should not take too long to make up one's mind to come in out of the 'wet.' *Delay could be disastrous.*

The word, 'democracy,' has a meaning that is not political. One dictionary gives as a definition, 'treatment of others as one's equals.' The equal treatment of all by all will be made possible by the equality of opportunity afforded by the Technate. Everyone will enjoy the following benefits:

a. equal, non-transferable income from birth to death;
b. choice of career;
c. finest possible educational facilities;
d. excellent health care;
e. the best in food, clothing and shelter;
f. widest variety of means of recreation and amusement, and time to enjoy them, as well as to develop one's talents;
g. equal status in the matter of law and social recognition;
h. equal opportunity to make the most of life in whatever manner one chooses;
i. a chance to take part in building and maintaining the Technate of North America, to make it a better home in which to live, and thus to offer an example for the rest of the world to follow, if it so desires.

Ethically speaking, *what could be more 'democratic'* than that?

Technocracy puts forth its social design as the next most probable state of society on the North American Continent, but that does not mean it will come as a matter of course. It is a bright future that we shall have to work for; the alternative is a very dangerous and hopeless future indeed. The only effective way to lend your 'consent' to the New America is to join Technocracy now, and do your bit.

—John Sheldon

Note: The Schematic Administration chart and the description of Functional Control are taken from the Technocracy Study Course book.

Needed: A Superior Ideology

Los Angeles—Adoption of a new textbook on American capitalism by Los Angeles High schools was urged here by Dr. Thomas H. Briggs, national chairman of the Council for Advancement of Secondary Education.

Dr. Briggs, emeritus professor of education at Columbia University, said a study has shown only 6 per cent of high school students throughout the country have had training in the basic principles of American capitalism.

"You've got to understand it, believe it and know how to apply it," Dr. Briggs said, "or economic disaster will result."

"Young people naturally are idealistic, altruistic. They see a lot of things wrong in the world. If they don't understand, they are liable to seize anything as a cure-all.

"We are trying to show them American capitalism is the foundation of our happiness."

Dr. Briggs said the 116-page booklet, "American Capitalism, an Introduction for Young Citizens," is "absolutely objective, not propaganda." A forthcoming second booklet, "Capitalism and Other Economic Systems," will also explain the economies of Communism, Fascism and Socialism, he said.

"If, after studying it, any young person decides to side with Communism, Fascism or Socialism," he said, "he ought to go to a feeble-minded institution."

(*When a system has to sell itself and 'brain wash' its youth, it must be in a sorry state.*)

'WORLD'S LARGEST TRUCK'

THE world's largest truck has gone to work in the world's largest copper mine. About Christmas time, a growling 750-horsepower steel Leviathan, rolling its 78½ tons on 18 man-high wheels, began hauling waste material in the Bingham open pit mine of Kennicott Copper Corporation at Bingham, Utah.

The huge vehicle stands 14 feet high, is 15½ feet wide, and 55 feet long. Two supercharged 375 horsepower engines drive it. When the dump bed is raised, the top rears 45 feet in the air, as high as a four-story building. *The monster is capable of hauling 110 cubic yards of earth in a single trip, some 165 tons of dead weight.* The capacity of the box is 80 cubic yards, level load. Its maximum speed is 35 miles per hour. To lift the immense steel bed with its enormous load of dirt or rock, a special hydraulic hoist mechanism was devised, *so powerful it can empty the truck in 18 seconds.* The hoist is 21 inches in diameter, is in three sections, and extends to 13 feet. When carrying a full load, the big vehicle tips the scales at about 480,000 pounds — provided there were any scales big enough to weigh it.

This prototype of the 'World's Largest Truck' was first used on a dam construction job on the Missouri River at the Oahe Damsite near Pierre, South Dakota. On that job the truck proved so successful that it was shipped to Bingham on a railroad car. It is too wide, too long, and far too heavy for the highways. The big truck will join a fleet of 25 smaller vehicles in the job of removing some eight million cubic yards of overburden along the upper north rim of the Bingham pit. In any other company the 25 trucks would be counted as huge, but their mere 50-ton load capacity makes them pygmies beside the 'big boy.'

Owners of the vehicle, Western Contracting Corporation, Sioux City, Iowa, couldn't interest any truck manufacturers in building a vehicle of this size; so, adopting a do-it-yourself philosophy, they put their own engineer to work. He came up with this monster.

An Impressive Construction Record

Western Contracting Corporation performed a major portion of the earth moving accomplished on the Oahe Dam, having been awarded five of the eight prime earthwork contracts. Work performed under Stage II Earthwork involved 6,440,000 cubic yards of excavation and 6,066,000 cubic

When carrying o full lood, the big vehicle tips the scale at about 480,000 pounds. The copacity of the box is 80 cubic yards. We do have the machines to build o New America, don't we?

yards of fill; Stage IV Earthwork, 22,140,000 cubic yards of excavation and 21,255,000 cubic yards of fill; Stage V Earthwork, 19,000,000 cubic yards of excavation and 18,000,000 cubic yards of fill; Stage I Spillway, 5,000,000 cubic yards of excavation; Stage VI Earthwork, 24,500,000 cubic yards of excavation and 16,000,000 cubic yards of fill. Totaling all contracts, Western excavated 77,080,000 cubic yards of dirt and shale and placed 61,321,000 cubic yards of fill.

In 1956, *the firm established an all-time record* for one contract in the experience of the Corps of Engineers by moving at Oahe *in one day*, by the use of load and haul methods, 143,000 *cubic yards of material.* In addition, they hold an outstanding safety record of 1,877,000 continuous man-hours without a lost time accident for work performed on the Oahe Dam. *This is the highest record of continuous man-hours without a lost time accident accomplished to-date in the heavy construction industry.* An 'Outstanding Safety' award was made to the company by the District Engineer, Omaha District, Corps of Engineers in 1956 for 1,000,000 man-hours without a disabling injury for the period April 1955 to November 1956.

The Oahe Reservoir Project was constructed by the Corps of Engineers, U. S. Army.

This Issue's Cover

The world's largest truck has gone to work, capable of houling 110 cubic yards of earth in a single trip. When the dump bed is raised, the top rears 45 feet in the air, as high as a four-story building. How many workers and how many man-hours would it take to move the same amount of earth this truck can haul in one load? Machines make jobs?

RESEARCH BULLETIN

Going Backnik

Washington (AP)—Government science leaders warned that public disinterest for education and basic research are endangering United States efforts in science and technology.

On the other hand, they said, evidence from other nations, notably Soviet Russia, shows a determination and a national will on the part of the people which seems to be relatively absent from the American scene.

* * *

In the fall of 1957 first-year college enrollments in engineering had climbed to 78,757, while last year they fell abruptly to 70,129 — a drop of 11 per cent in one year. And on top of this, total undergraduate enrollment in engineering subjects also went down substantially.

(*What can be expected under a system that puts a high premium on profits and chiseling?*)

Our Future Citizens

Washington (UPI)—Mrs. Katherine B. Oettinger, chief of the Children's Bureau, voiced alarm over figures showing that more than 400,000 children under 12 have to fend for themselves while their mothers work. Of these, 138,000 are less than 10 years old.

Mrs. Oettinger said communities where this situation prevails should move at once to provide day care programs because "these children are most apt to fall prey to accidents or harmful influences."

She pointed out that many of the working mothers, especially those with very young children work because of economic necessity.

(*In this land of technological abundance the Price System cannot provide the necessities of life. Even in Russia they are humane enough to provide free clinics for the children of working mothers.*)

Sign of the Times

Los Angeles—More people went broke in Southern California last year than any place else in the nation.

Such was the picture drawn yesterday from final figures on 1958 bankruptcy proceedings in the federal courts here. In all, 12,238 individuals and firms called it quits during the year — an all-time high.

"We have the unenviable distinction of having more bankruptcy filings than any other federal judicial district," commented Benno M. Brink, senior referee in bankruptcy.

Brink attributed the increase to general recession conditions and an influx in "population of the wage earner class."

* * *

What Did We Fight For?

Bonn, Jan. 7 (AP)—Alfred Krupp, *the German munitions king*, has bought out a rival concern and emerged as West Germany's leading steel-maker.

Krupp has purchased the Boehumer Verein with a capital of $23 million. With the two companies going full blast, Krupp interests will now turn out 4 million tons of steel a year.

(*Didn't we fight World War II to prevent the reoccurrence of fascism or another Hitler?*)

* * *

Water Crisis

Los Angeles—Water experts predict that Southern California will have no domestic water supply by 1970 if new sources are not tapped. They warned that more water must be pumped into Los Angeles' lower basins soon to hedge against possible delays in the delivery of Feather River water.

* * *

Los Angeles—Almost every backyard will have a swimming pool by 1982, it was predicted here last night by S. L. Curlett, president of the National Swimming Pool Institute, in a talk before the group's board of directors at the Ambassador. He said he foresees 52,000,000 private pools.

(*Not to be facetious, but where is the water coming from?*)

Confidence or Purchasing Power?

Detroit, Jan. 17 (AP)—The auto industry is rolling out new cars at a rate of approximately 27,000 units daily. Retail deliveries are moving into higher-volume areas, too, but they still are behind the output level.

That means dealer inventories are mounting. Some industry authorities say that at the present production-sales ratio inventories could reach a near-record total of 900,000 by mid-March.

* * *

On Its Way Out

Los Angeles (AP)—The family car is on its way out, a Chicago businessman believes.

"I doubt if the average city dweller has another possession so little used — unless it is his dictionary," Walter L. Jacobs told the Los Angeles Rotary Club recently.

He said the average city man's car *stands idle 95 per cent of the time.* He envisioned urban apartment houses in which fleets of rental cars are available to occupants, similar to today's laundry facilities.

Jacobs is president of the Hertz Corp. His firm rents cars and operates nationwide.

* * *

No Translators, Just Tape Recorders

Washington, Nov. 22 (AP)—A Russian scientist said today that if the United States had translated available information from Russian publications *there would have been no surprise at the first Sputnik launching.*

Prof. A. I. Mikhailov, director of the Institute of Scientific and Technical Information of Russia's Academy of Scientists, said information on the Sputnik plans was published long before the launching in October, 1957.

Some American scientists attending a news conference at which Mikhailov answered questions through an interpreter, confirmed his statement. They said *articles about the Sputnik plans were published in Russia a year before the launching.*

Mikhailov came here for a meeting of the International Federation for Documentation — an organization set up to promote and expedite worldwide exchange of scientific data.

Re-Design or Face Disaster

The development in the urban centers and the horizontal growth of suburbia, which 'planning' experts see as growing together into huge super-cities as 'megalopolises,' has become one of the most expensive promotions in the history of this nation.

THE UNITED STATES has had a phenomenal growth and a rapid acceleration in its social structure. In a relatively short time of a century this country has transformed from an agrarian into a highly urbanized-industrial civilization. In the year of 1800, ninety per cent of our population was engaged in farming. Today, the figure is hardly more than 13 per cent with one farm worker supplying the food for nearly 25 non-farm people. In 1850, only 15 per cent of the population lived in urban areas, but by 1950 the population in urban centers had increased to about 65 percent of the total population. And it is generally agreed that the trend in population growth will occur almost entirely within the urban concentrations. Already the metropolitan areas of the United States are confronted with numerous social and economic problems that have become insurmountable under the present methods of social operation. Any additional growth, population, industrial or otherwise, will only aggravate an already explosive situation, and bring disaster to thousands of communities and millions of people.

Before enumerating some of the most serious problems that are strangling the operations and the growth of all metropolitan and regional areas in the United States, let us briefly review that past history of our country which has made the greatest impact upon the social structure and brought about the present existing conditions. Up to the time of the invention of the steam engine by James Watt, this country was composed mostly of farmers and artisans. The advent of the industrial revolution changed the way of living and the methods of doing work. Millions of persons migrated from the farms into the towns and cities to work in the factories and business establishments. Despite the industrial revolution, the method of social control remained the same. The formation of the government in the United States had its basis in the statutes and laws of the old world, especially England. The regulation of the social operations in this country is of a political origin, yet the United States has been undergoing such a rapid rate of social change as a result of technological advancement that political control of our high-energy society has become an anachronism.

There have been very few, if any, fundamental changes in the design of the urban-suburban areas of today from the cities of centuries ago. The suburban areas of today are merely an adjunct to the metropolitan centers which grew in a horse-and-buggy era. Our major streets and highways follow routes traced by early settlers and explorers, hewed out of the wilderness for foot traffic, animals and animal-drawn wagons. The early growth and development of the cities and regions in the United States was under the control of the 'robber barons,' who were concerned with manipulation and exploitation of the minerals and land solely for profit. Under the present system, it is considered the responsibility of the political and financial interests to control the operations of any urban or regional area in the nation. It does not make any difference whether their interests are outmoded with the technological transition taking place. Even today in our highly mechanized society, the zoning and the codes for any kind of construction in our cities are decided by the political and vested interests who are primarily concerned in making huge profits and not with increasing the efficiency of community operation or improvement of the social well-being of the people. Throughout our history technological advancements have been used to gain advantage and as profitable ventures rather than for the purpose of reconstructing a new civilization that is in accord with this scientific progress. Because the urban areas have been allowed to grow in a hodgepodge manner and at such magnitude, it has become impossible to redevelop and redesign our cities to meet the problems of the machine age under the present mode of social operation. With this resume of the past, we can realize and understand why the nation is faced with many serious problems of a metropolitan and regional nature. In reality, these problems are far broader in scope.

The local, county, state and regional problems of all areas in the United States are numerous and denote serious social implications. They run the gamut from the fact that most metropolitan and suburban concentrations have become a menace to the health and welfare of the people residing in these communities to the inability of the many levels of government to cope with or to meet the exhorbitant expense of maintaining the greatest maze of hodgepodge and obsolescence the world has ever known.

Changes Effect Every Community

In modern times the metropolitan centers have constituted a hub of the activities of the various regions throughout the country. At one time most of the employment, production, trade and finance was centered in the large cities. But the long term trend shows that there has been a steady decline in manufacturing, retail trade and business in general in the metropolitan areas. In the past seven or eight years, there has been a decline of about 165,000 manufacturing jobs in twelve of the largest cities (excluding Los Angeles). Back in 1929, jobs in retail trade represented 78 per cent of such jobs in the metropolitan areas. Today they represent only 63 per cent. The dollar volume of sales in the downtown areas of many large cities fell off at the time when retail trade was 'booming' and prices were rising. The tremendous expansion of office-building space in the large cities has not reflected an increase in employment. The use of automatic data-processing and data-transmission devices have increased the output per office worker and blunted the growth in the number of jobs in this category in the large cities. They have also reduced the floor space needed for a business operation thus reducing the investment possibilities or the need for this kind of expansion. The movement of many large industries from the urban areas to smaller cities and suburban areas has added to the woes of the large urban centers. This migration of industry from the large urban areas has made it possible for industry to construct new, automatic factories which require very little labor, and sell its obsolete plant and equipment at the same time. And the data-processing devices and the automatic-electronic controls has also made it possible for industry to integrate warehouse, transport, and production scheduling and control at points remote from the plant and the large cities. These are just a few of the factors that are bringing a decline in urban life as we know it today.

Most of our larger cities are blighted with slum areas. While in the past most of the slum areas were concentrated in confined sections, *they are now spreading out and covering more land space as well as changing in character.* The buildings are becoming so decrepit that they cannot sustain the number of inhabitants they once held, even on a slum basis. It is estimated that there are about 17,000,000 Americans living in dwellings that are beyond rehabilitation and decent living — without heat, lights or plumbing. This trend is not confined to the large cities, it is spreading into the surrounding areas. Many of the 'new,' suburban areas already have all of the earmarks of our future slums. The growth of slums and slum areas is the by-product of the present mode of social operation and *the lack of planning to meet an ever changing way of life.*

The increase of population in the large cities and the migration of people from other areas into the metropolitan concentrations have placed an excessive load on the already inadequate facilities of the urban areas. They have added to the ever growing traffic congestion in the cities. This migration of the population into the metropolitan areas has created an accute housing problem. Most of these people do not have the wherewithal to buy the essentials let alone afford decent housing. As for housing units alone, the large urban concentrations are finding it difficult to just equal the number of housing units taken out of the urban housing market by demolition, condemnation or redevelopment of commercial centers, streets and highways, etc. The social pressures created by the influx and increase of population has drained the local, county and state governments of their financial resources and placed upon these governments the demand for more and more taxes and help from the federal government. The urban areas have become the breeding place for crime, disease, and deterioration. *If we think that we have problems now, what will it be if the nation's population continues to increase at the present rate?* (The Census Bureau projects a population in the United States between 215,800,00 and 243,900,000 by 1975 as compared with about 175,000,000 today.)

The migration or the mobility of the population in this country has been brought about by the impact of mechanization upon society. Since the end of World War II, there have been a greater number of technological advances which have

changed the operation of our farms and industry. In return, *these changes have affected every community and region throughout the United States.* The New England states and the East have lost much of their textile industry to the South. Agricultural mechanization has displaced hundreds of thousands of farm families from the land and forced them into the urban areas. Strip mining and deep mine mechanization has greatly reduced manpower requirements in the mining communities. The diesel engine and the use of electronic-control devices has reduced the number of laborers needed to operate and maintain the railroads. The rapid advancements in technological methods has caused dislocations in many communities and regions, and great shifts and mobility of populations. The increase and the influx of population in the urban areas has added to the labor surpluses of the urban concentrations, and further deterioration of the local governmental units, their tax base and source of revenue. Even the development within the urban centers and the annual capital expansion cannot compensate for the employment losses that are occuring at a rapid rate. Jobs are being eliminated at a faster rate than expansion can take place. Besides, most expansion is being done by machines. And the automation of factories and the large business concerns has accelerated the growing list of unemployed and eliminated the inefficient plants and shops. *It is evident that the magnitude of the social and technological pressures upon society cannot be solved on a local or regional level.*

An Expensive Promotion

One of the most serious problems facing every region in the United States has been the rapid growth of suburbia. After World War II, the real estate and financial interests in this country promoted the gimmick of suburbia or spreading out horizontally away from the filth and blight of city life. With the aid of the federal government, sprawling tracts of houses were built with the purpose of making the American family believe that to acquire a home in suburbia was the answer to the American dream. And the American sucker fell for the bait — hook, line and sinker — with a twenty, twenty-five, or thirty year mortgage hanging over his head. He had committed himself from now to eternity. But then is when the problems really started for the mortgage holder and the entire community. In the first place, these suburban areas were developed for a profit and not as a service to the community welfare. Because of this fact, the promoters had to cut corners to realize a maximum profit from their investment. The rapid growth of the suburban areas created the immediate need for new schools, new streets and highways, sewer and sewage facilities, police and fire departments, water supply systems, recreation and playground facilities, new governmental units, etc. This in return has meant a steady increase in taxes and higher costs for those American families living in suburbia. *The American dream is now turning into a nightmare.*

Because of the large land area needed for the development of suburban areas, acre after acre of farming land has been used up for homes, schools, parks, factories, warehouses, streets and roads as the result of horizontal growth. In just the 1955-57 period, Los Angeles county lost 20 per cent of its citrus acreage to new urban development. If the suburban and population growth in Los Angeles continues at the present rate, virtually all farm land will be used up when the population hits 9 or 10 million. After that, what? This means that food prices will increase as food supplies must be brought in from greater distances. But whether the suburban expansion can continue at its present rate is very doubtful. For one thing, the average value of farm real estate has reached a new peak this year. It has become too expensive and unprofitable to buy farm real estate at today's prices for the development of large suburban areas except for 'snob-appeal' or for those in the high-income brackets. The only catch is that there are enough Americans with 'snob-appeal' or bourgeois concepts but without adequate income to buy and maintain a suburban home, its many gadgets, a swimming pool, two or three cars, two dogs or three cats, and what have you. One of the last

A recent survey by the United States Department of Agriculture shows that about 17 million acres of land suitable for cultivation were diverted to non-farm uses during the past 15 years. About 500,000 acres annually of these lands have been diverted directly to urban and suburban uses. Much of the land taken has been the flattest, least erodible, and most productive farmland.

expediencies for maintaining and prolonging the obsolescence of the Price System has come to an end.

The development in the urban centers and the horizontal growth of suburbia, which 'planning' experts see as growing together into huge supercities as 'megalopolises,' *has become one of the most expensive promotions in the history of this nation under the present system of private or 'free' enterprise.* It has and continues to consume a large part of our irreplaceable mineral and energy resources. The development of suburbia has already used huge amounts of our resources in the construction of homes, schools, industry, streets and highways, and other types of building. Dr. Phillip Hauser, a population expert, estimates that there will be a demand for at least 60,000,000 more tons of steel and 4,000,000 more automobiles annually over the 1958 production rate because of the 'extremely rapid growth' in population. While Dr. Hauser sees this expansion or growth as 'a terrific spur to business,' we see it as a physical impossibility and as the end of our high-energy civilization if the present trend continues for any period of time. We do not have the high-grade iron ore in the United States to continue at the present rate of growth. And the nations that do have the mineral and energy resources are demanding a higher cut of the take or taking steps to nationalize their own resources. Because of the necessity of the automobile and the greater distance involved from living in suburbia, larger and larger amounts of our oil resources are being consumed to maintain the growth of horizontal living and the high resource cost of its duplication. In 1957, private and government-owned vehicles consumed 52 billion gallons of highway motor fuel as compared with 21.4 billion gallons in 1940. Resource wise, *the present rate of horizontal expansion is too high a price for our civilization to pay just for the purpose of preserving and maintaining an obsolete and outmoded system of private enterprise.*

An Explosive Situation

Another one of most explosive problems in the growth of the urban concentrations is the ever growing traffic and transportation congestion. As an example: If all of the automobiles in Detroit were to park in the downtown area of Detroit, there would be no other space for anything else.

> Washington, Nov. 24 (AP)—A fantastic price tag of possibly a quarter of a quadrillion dollars was placed today on the cost of building and rebuilding urban structures and streets to meet the explosive city growth of the next twenty years.
>
> In dollar sign language, the estimated total would be in the $250,000,000,000,000 bracket.
>
> Dr. Luther Gulick, president of the Institute of Public Administration, New York, told the National Conference on Metropolitan Growth here that the vast job cannot be done by a multitude of separate, quarreling and municipally improvised local governments.
>
> Gulick urged that cities, counties, townships, school districts and other authorities combine forces in each area to attack their problems regionally.
>
> He called also for greater rather than less federal support for city renewal programs.

In the city of New York where 85 per cent of the traffic movement is by mass transit and only 15 per cent by automobile traffic, an increase in automobile traffic to 25 per cent of the total traffic movement would bring New York City to a standstill and create a chaotic condition. To emphasize a point — if the fire trucks and the equipment to fight fires could not move through the streets to answer a fire alarm, and with the number of fires that break out in the city of New York every day, how long would this one big fire-trap last and how many people would survive? What would happen when, and the time is not far off, the trucks cannot deliver the food to the stores and the eating establishments? An efficient and uninterrupted transportation system has become imperative for our survival.

Many cities have been forced to seriously consider placing a ban on all automobile traffic in the downtown areas. In the city of Los Angeles about one-third of the downtown area is already alloted to parking lots and spaces. And many parking lot owners are restricting the use of their parking lots to the long, king-size cars because they take up too much space. The turnpikes and the 'creepways' are obsolete before they are completed. They are also very expensive to sustain without

additional revenues. The traffic in the cities has already reached the point where the streets and parking lots cannot accommodate the present number of automobiles. Over 50 per cent of the mileage driven today by vehicles is done within the city limits where there is a definite limit in the land area. But with the registration of vehicles at the rate of millions annually the city-street-mileage has only increased about 60,000 since 1945. *If all of the automobiles and trucks in the United States were in use at the same time, we would witness the biggest catastrophe in the history of the United States.* Yet the continuation of 'free enterprice' with all of its inefficiency and wastage depends on the production and addition of millions of vehicles to an already explosive traffic problem.

The present mass public transit systems are accomplishing very little to alleviate the congested traffic. As a matter of fact, many communities have been forced to abandon their transit systems because the service was inefficient and they were not being patronized. Most of the mass transit systems are too crowded, too slow, too expensive, and involve too much transferring. For one thing, the mass transit systems have been caught in the slow moving traffic congestion in which the automobile predominates. At the same time the traffic problem has reached an accute stage, the railroads are eliminating and curtailing passenger service which in return will make the situation that much worse. *Our traffic problem has everything necessary to constitute a major disaster in this country.*

Another headache in the growth of the metropolitan and suburban areas is the ever increasing rate in the per capita consumption of water. The expansion of industry, agriculture, homes, recreation and other types of development has created a critical water shortage in thousands of communities. Many communities have been forced to inaugurate measures to restrict and limit the consumption of water. Horizontal growth has increased the rate of pollution of our streams, rivers and lakes, and it has reduced and denuded our watersheds to the point where the lands cannot prevent floods or control the flow of water for our own use. In many metropolitan areas landslides in residential and business districts are becoming very prevalent because of the horizontal expansion and the utter disregard for geological and conservation factors. As if our water problem is going to be solved on a legal basis, the vested interests are fighting and bickering over water rights with the financial and real estate interests of one state lined up against other states, regions against regions, and city against city. The battle over water rights that has been going on between California and Arizona, and the intra-rivalry in California, are prize examples of what the financial and real estate interests will do to maintain their lucrative rackets. While the Price System depends upon expansion for its continuation, there are not sufficient water resources to meet the present consumption or adequate planning to control the water potential of the North American Continent. The hydrology problem is continental in scope and cannot be solved on a regional, state or sectional basis. *Our present political boundaries are an obstacle to the development of this country's and this continent's water and natural resources.*

Continental in Scope

While there has been many columns of favorable publicity devoted to the amount of urban-suburban expansion and development which has taken place in the United States, this does not necessarily mean that these projects have solved any of our metropolitan or community problems. In the case of the development of a new commercial center, it is done because the private financial institutions need what they consider a sound investment for their ever increasing liquid assets, and also to protect or preserve their previous investments in the area or the surrounding communities. Once an area has deteriorated to a point where it can be condemned, it is then possible for the promoters to buy the land for a 'song,' sometimes with the aid of the local, state and federal governments, and then redevelop the area either for making huge profits or for the purpose of selling same when the value of the property reaches its peak. Under the present mode of social operation, the federal government is used by the political and financial interests to subsidize an obsolete system rather than to reconstruct and integrate all of our communities and their resources into an efficient operating unit. It is only when an area has deteriorated to the point where it cannot be redeveloped on a profitable basis by private or a combination of private-public funds that the federal government steps in to finance the project. But the response by the federal government is the usual picayunish and expedient attempt to solve the problem, no matter how serious or what the magnitude of the

problem may be. Most cities and states cannot undertake urban renewal programs except with the aid of federal appropriations. They are not in the position to finance the maintenance, the development and the modernization of their capital plant. The federal program as now proposed would amount to only $1.3 billion over a six-year period with the federal government's share starting at $200 million annually and *diminishing* as the program advances. (The federal government has paid more subsidy on a single farm crop, potatoes, than it has on its entire housing, slum clearance and urban redevelopment projects). The American Municipal Association has called for a ten-year $5 billion urban renewal program, but applications are now running at more than $6 billion annually. Technocracy asks: How is it possible to solve our numerous and explosive municipal and regional problems with mere expediencies or palliative measures as now proposed?

It must be obvious to every intelligent American that we cannot meet the ever growing problems that exist in every community throughout the United States and the North American Continent within the framework of the present mode of social operation. The present political-economic Price System mode of social administration is an impediment to the growth and progress of this Continent. The pressure of internal events makes it imperative that we install a *functional-technological control* to replace our present outmoded method of social operation. (For further details: *Technocracy Study Course*, Lesson 21, Technocracy: The Design). We are now confronted with a conflict between solving our social problems with the antiquated controls of a horse-and-buggy era or through devising a new method of operation that fits the physical requirements of our technological age. *This would mean that the entire array of man-made buildings and equipment of the whole North American Continent would have to be junked and replaced by more efficient and better functioning structures and equipment.* Instead of horizontal growth with its waste of natural resources and duplication of operation, Technocracy's design calls for vertical living or the construction of Urbanates (read 'A Place to Live In, Technocracy Digest, November, 1955) which would provide adequately and conveniently everything necessary for the highest possible standard of living for every North American, and at the lowest possible energy cost. The entire North American Continent would be integrated and coordinated into one operating unit instead of thousands of political governments and the existing jurisdictional lines or boundaries. Technocracy's design of operation recognizes the fact that it is the physical factors which will determine the over-all design for operating the entire social mechanism. While various means of transportation have been designed, we have never designed a continental system of transportation. The same goes for housing, schools, hydrology or water resources, recreation, industry, distribution of goods and services, communications, etc. The growth and the change in our social structure is a technological problem and continental in scope. The problems of our interdependent society can only be solved by adopting the control measures that conform to the technological operating requirements of the present social mechanism. *Either we redesign and reconstruct our entire social structure along scientific lines or we will face disaster in the not too distant future.* Technocracy has taken its stand in favor of reconstruction and the general welfare of the North American Continent. What about you?

—Clyde Wilson

Reason for 'Cold War'

Los Angeles—A. N. Seares yesterday cautioned the United States to be wary of Anastas Mikoyan. No. 2 Russian recently in Washington for high-level diplomatic conferences.

Seares is president of National Sales Executives, Inc., and is a former vice-president of Remington-Rand.

"I think the whole purpose of Mikoyan's visit is to open up channels of trade," Seares informed a Biltmore press conference. "I think we should be extremely wary of the kind of sale he is trying to make."

Behind Mikoyan's visit, Seares said, is a Soviet effort at destroying or inflating the U. S. economy through a relaxation of trade restrictions. Seares also said the Russians are trying to convince this country that a $45 billion defense budget is unnecessary.

"*Can you imagine,*" he asked, "*what would happen in California if there was a 25 per cent cutback in defense spending?*"

(*No wonder the very-important-persons in Washington don't want peace or the 'cold war' to end!*)

NEWS of the ORGANIZATION

TECHNOCRACY is on the move in Southern California, as shown by the stepped-up activity by the Sections and their members, and the increased interest on the part of the public in lectures and the educational program of the Organization.

Highlighting the new tempo of activity has been the recent opening of a new and much larger headquarters by Section 1, R.D. 11834 of Los Angeles; and the progress being made by Section 2, R.D. 11734 of Colton in constructing its own brand new Section Headquarters.

In the case of Section 1, R.D. 11834, the membership was glad to move from the congested area of downtown Los Angeles to a more favorable location at Avenue 45 and Eagle Rock Boulevard. The membership can well be proud of their newly decorated reception room, offices, auditorium and kitchen facilities. The new headquarters is situated in a location where it will present maximum symbolization.

By wise planning and persistence, the Section and its members at Colton were able during the past five years to accumulate a building fund of sufficient amount to purchase their own land for the construction of a new headquarters. During the past few months the members of the Colton Section and the surrounding area have been working in their spare time and on week ends at the task of building the new headquarters. To show for their effort, the members have already completed 65 per cent of the new building. When completed, the new headquarters will provide a most presentable and functional design for all of the activities of the Organization.

The new headquarters at Colton has been constructed at a much lower cost than it could be built through a private contractor. It might be to other Section's interests to investigate the possibilities of instituting a similar 'do-it-yourself' program as so successfully employed by Section 2, R.D. 11734.

The group of energetic and functional Technocrats of Section 16, R.D. 11834 at Van Nuys have been very busy at their symbolization program. During the past month they painted four new Technocracy Gray Cars with more to come.

Members attending the Current Events Class being held every Sunday evening at Section 2, R.D. 11833 have been most active in sending letters-to-the-editor departments of the various publications in the Los Angeles area. So far Technocracy has received over 5,000 publicity units in the Los Angeles metropolitan newspapers through the above source. (A publicity unit is a printed article that mentions Technocracy of one column inch in a publication of 1,000 circulation).

We salute all Sections and Members that are active in some capacity and refuse to be apathetic toward the technological events of today. Technocracy marches on to a New America of Abundance!

—Malcolm Dorton

The new headquarters of Section 1, R.D. 11834 of Los Angeles, located where it will present maximum symbolization for the Organization.

The auditorium of Section 1, R.D. 11834, neatly decorated and of sufficient capacity to accommodate almost every kind of activity held by this Section.

There Ought to be a Law

Dear Senator:

I heard on the radio where Mr. Eisenhower is trying to save money for the taxpayers. I hope he does, but I don't see any sign of it yet. I got to thinking what I would do about it if I was the president, and I believe I worked out an idea that would save the country lots of money. I would have all the seats in Congress and all government offices filled with millionaires or, anyway, very rich people. But, first, I would want a law passed which would make everybody who was put into office give all his money and property to the government, and I would include the money and property of his wife too. Then, he wouldn't have any special interest to be working for on the side, and he could give his whole attention to his job. The government would give him a good salary while he was in office and a good pension afterwards, so he wouldn't have to worry about making a living for the rest of his life. He would also have to promise not to make any extra money while in office or after retirement. That is why I would want to appoint millionaires, because the government would get a lot of income that way and they could really cut taxes. So, if you will pass a law like that, I'm sure the country will be a lot better off.

One thing I don't like about the way they run the government is how, whenever anything comes up that needs doing, they appoint a committee to investigate it, and the committee appoints some subcommittees to make more investigations. And that is about the last you hear of it. I mean things like cutting taxes. When we got into the war and they wanted to draft men for the army, they didn't bother about appointing any committees to investigate all the angles. They just gave everybody a number, then they pulled some numbers out of a fish-bowl and you were in the army. Why can't taxes be cut just by cutting taxes and not have to appoint committees and subcommittees to look into the matter? Don't you think that would be a better way of doing it?

Very truly yours,

BEETAL BRAYNE

Los Angeles—The impact of automation on the Southern California and national industries picture is disclosed in the latest inventory of machine tools conducted by American Machinist, McGraw-Hill publication.

This basic and highly significant study of industrial production is made once every five years and is based on more than 5000 metal working plants, projected to include every one of the 3,500,000 machine tools in the nation.

The impact of automation upon industry is underscored in the fact that there are 235,000 fewer machine tools nationally than there were five years ago.

The decline of 235,000 in total machine tools nationally during the past five years while productive capacity increased 40 per cent, states the survey, "is the first tangible proof that automation has affected the quantity of machines in the country."

It lists two factors responsible for the seeming incongruity in the ratio of tools to production.

First is the increasing use of *multistation machines that may replace anywhere from two to more than 100 smaller machines.* About half of the 16,000 multistation machines in use are installed in the automobile industry, and this industry shows the sharpest decline in total number of machine tools.

The second factor is the continuing decline in machines more than 20 years old. From 21 per cent of metal cutting machine tools that were in this oldest age group in 1949, there was a decline to 19 per cent in 1953 and to 16 per cent today.

A recent survey of machine tool productivity by American Machinist found that *today's machines are 54 per cent more productive*, on the average, *than those of 10 years ago.* In the past 20 years, *productivity has more than doubled.* This would mean that the machines of 1938 vintage disposed of have been replaced with a much smaller number of new machines capable of doing more work.

Washington, Jan. 8 (UPI)—A noted scientist said today the time is coming when society will have to decide whether individuals should retain the right to say how many children they will have.

The scientist, Dr. George Beadle of the California Institute of Technology, said that "with present rates of population growth, something will have to happen before too many generations."

Then without answering it, he asked this question:

"*Can we go on indefinitely defending as a fundamental freedom the rights of individuals to determine how many children they will bear, without regard to the biological or cultural consequences?*"

Beadle, head of Caltech's biology division, is one of the world's leading geneticists and biochemists. He received a Nobel award last year. In a paper read at a forum on "Resources for the future," Beadle said science has learned a great deal about how life is formed, how hereditary traits — good and bad — are passed from generation to generation, and how evolution proceeds.

"Understanding of the nature of life is thus replacing mystery," he said.

Man long since has learned how to direct the evolution of plants and animals to his own purposes and could, Beadle said, apply this knowledge to direct his own evolutionary future.

"But," he added, "unless we were to do this with a great deal more wisdom than we have so far demonstrated, we would surely fail miserably if we tried."

A recent United Nations report estimated that the world population will increase from 2.5 billion in 1950 to 6.25 billion in the year 2000. Will the earth be able to feed these added billions? Will the race of man deteriorate through multiplication of hereditary defects?

The answers to these questions, Beadle said, will have to be supplied "by society as a whole and on a world-wide basis."

CHANGE OF ADDRESS

Please send your new address at least 30 days before the date of the issue with which it is to take effect. Enclose the old address with the new address. The same applies to expirations. Second correspondence to:

The TECHNOCRAT
8113 South Vermont Avenue
Los Angeles 44, California

The TECHNOCRAT STAFF

Clyde Wilson.....Editor
Leland Proctor.....Assistant Editor
Kenneth Wolford.....Research Editor
Kay Dunagan.....Circulation Manager
Marjorie T. Clouse.....Business Manager

TECHNOCRACY

North America's Only Social Dynamic

WHAT?

Technocracy is the only North American social movement with a North American program which has become widespread on this Continent. It has no affiliation with any other organization, group or association either in America or elsewhere. The basic unit of Technocracy is the chartered Section consisting of a minimum of 50 members and running up to several hundred. It is not a commercial organization or a political party; it has no financial subsidy or endowments and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsidence allowances. The annual dues are $9.00 which are paid by the member to his local Section. Members wear the chromium and vermillion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHEN?

Technocracy originated in the winter of 1918-19 when Howard Scott formed a group of scientists, engineers, and economists that became known in 1920 as the Technical Alliance — a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934 Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundation of the present Continent-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHERE?

There are units and members of Technocracy in almost every State and in every province in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces. Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the location of the nearest Technocracy unit.

WHO?

Technocracy was built in America by Americans. It is composed of American citizens of all walks of life. Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this Continent. Membership is open only to American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective office or active office in any political party.) Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher, or housewife—so long as you are a patriotic American—you are welcome in Technocracy.

The TECHNOCRAT

Offering to the American public a medium by which it can learn the facts regarding the transition period in which we are moving toward a New America of technological abundance.

PAMPHLETS

Introduction to Technocracy	25c	Continentalism—The Mandate of Survival	15c
Make Way for Social Change	15c	The Culture of Abundance	15c
Man Hours and Distribution	15c	'There'll Always be an England'	10c
The Energy Certificate	15c	'Our Country Right or Wrong'	15c
Science vs. Chaos	10c	America Must Show the Way	15c
		'The Sellout of the Ages'	10c

March, 1959 Whole No. 189

The TECHNOCRAT is published quarterly (Mar., June, Sept., Dec.) by a Managing Board at 8113 So. Vermont Ave., Los Angeles 44, Calif. Entered as second-class matter April 12, 1938, at the post office at Los Angeles, California, under the Act of March 3, 1879. The TECHNOCRAT is an authorized publication of Technocracy Inc., Howard Scott, Director-in-Chief, Rushland, Pennsylvania. Subscription rates: 25c a copy or 4 issues $1.00, payable in advance. Send all correspondence to (and make all checks and money orders payable to) The TECHNOCRAT, 8113 So. Vermont Avenue, Los Angeles 44, California.

Telephone PLeasant 1-0828

Not responsible for unsolicited manuscripts unless accompanied by return postage.

Entire contents copyrighted 1959 by the TECHNOCRAT.

SUBSCRIPTION ORDER

To: THE TECHNOCRAT
8113 So. Vermont Ave.
Los Angeles 44, Calif.

Enclosed herewith in $ to cover subscription(s) to Technocracy Magazines for years.

(All three publications are quarterlies, but so rotated that one appears each month.)

ALL THREE MAGAZINES—
☐ 12 issues (1 year), $3.00

THE TECHNOCRAT—

TECHNOCRACY DIGEST—

NORTHWEST TECHNOCRAT—

☐ This is a new Subscription.

☐ This is a renewal Subscription.

START WITH ISSUE

Send to:

(Foreign rates, other than Canada, Mexico, and U. S. Territories 20% additional to above rates. Canadian orders payable in U. S. funds.)

Solution in Order

The domestic problem here at home in the United States and Canada is one of how to distribute the ever-mounting abundance pouring out of our national production. Sufficient purchasing power cannot be created nationally by the total volume of salaries and wages to ensure the volume distribution of this abundance to the respective populations of these two great producing entities of North America. Washington and Ottawa, Wall Street and James Street are plagued with this dilemma. We are rushing headlong into more and more critical stages on the national scene. A national or Continental solution to the social problems of this Continent is in order. There comes the trouble. No solution to the social problems of United States and Canada is possible short of a fundamental redesign and reconstruction of our entire economic and political structures. Rather than face the social change implicit in such fundamental redesign, the business interests and political parties of United States and Canada in their psychotic fear of our social realism at home are conspiring to involve both countries in a world-wide crusade to stop social change and make the world safe for American business.

—Howard Scott

— SECTION STAMP —

TECHNOCRACY
PROVIDES THE DESIGN
FOR THE
DISTRIBUTION OF ABUNDANCE
TO
ALL NORTH AMERICANS

Ph. GA 4-8352

GROUP A. R.D. 11353
TECHNOCRACY, INC.
BOX 653 — EDMONTON

The TECHNOCRAT

PUBLICATION OF TECHNOCRACY INC. • LOS ANGELES • CALIFORNIA

JUNE '37

IN THIS ISSUE:

- Unfreedom of Press in America
- Status of Labor in the Power Age
- Science in the News
- They Are Catching On
- Research Bulletin
- More Leisure Ahead

NEWS MAGAZINE

Whole No. 190

25 CENTS

PUSH-BUTTON LOADING

(See Page 26)

The TECHNOCRAT

JUNE. 1959

Stupid – Moronic – or Both!

Mar. 21, Los Angeles — A meeting of the nation's top space scientists broke up in confusion after one shouted that our missile program is "the swan song of a dying civilization".

Applause greeted the remarks made before a Caltech seminar on the realities of space exploration.

Dr. A. R. J. Grosch, who manages space programs for I B M forcefully declared:

"We don't need better missiles to destroy each other. The ones we have now will do the job adequately.

"And there isn't any point in zooming off into outer space. We could spend the money better solving problems here at home — taking care of our overcrowded, underfed millions. If we did that, we wouldn't need to find new world's to colonize."

There was a loud burst of applause from attending scientists. Several leaped to their feet to speak. The meeting ended in confusion.

Grosch's remarks were prompted by a critical speech by Dr. Louis J. Ridenour, Jr. assistant manager of research and development for Lockheed's missile systems division.

The missile program is following America's "traditional economy of waste", Ridenour said.

"We turn in our cars before they are worn out, and our nation would go broke if we didn't. Our missile program fits into the system very well. We send up missiles that never come back and so we have to make more missiles.

"This is fine. It creates jobs and keeps money in circulation.

"In the not too distant future, man will be boarding the other fellows satellites and destroying them. This means more satellites must be built, and the economy is kept functioning at top speed."

Two other top space scientists expressed their views on the security wraps under which they must operate.

"We have adopted the position that we will talk with candor about what we have done," said Dr. T. Keith Glellan, chief of National Aeronautics and Space Administration.

"This includes frank discussions of such of our experiments as must be classed as failures, just as surely as it includes reports about our successes."

Dr. Fritz Zwicky, astrophysicist, went even further: He said the U. S. is trailing in the space race because scientific news is suppressed.

"One scientist doesn't know what another is doing," Dr. Zwicky said, "If we had free dissemination of scientific knowledge five years ago, we wouldn't be behind the Russians now. We'd be ahead."

(From a Technocratic viewpoint the remarks of Dr. Grosch are pertinent and in line with our ideas. It is hard to tell from the way in which this article is written whether Dr. Ridenour is being sarcastic or is playing it straight. Certainly it is a realistic appraisal of the American Way and should jolt any apathetic citizen into the realization that we are being stupid or moronic or both. The remarks of Dr. Zwicky show the effect of allowing the military and financial mind to control and direct scientists. Science cannot operate in a vacuum.)

June, 1959

The TECHNOCRAT is published quarterly by a Managing Board at 8113 S. Vermont Ave., Los Angeles 44, Calif. Entered as 2nd class matter April 12, 1938, at the post office at Los Angeles, Calif., under the act of March 3, 1879. Subscription rates: 4 issues $1.00; 12 issues $3.00.

Whole No. 190

UNFREEDOM OF PRESS IN AMERICA

Just what constitutes "freedom of the press?" Primarily, periodicals are "profit-making" enterprises and, as such, must appease the common denominator of their readers. Have you tried lately to exercise YOUR freedom of expression in the public press?

The United States boasts that it has a free press; and freedom of the press is promised in the Constitution of the nation, prepared and presented by the Founding Fathers. (One of the Founding Fathers was a renowned publisher.) In furtherance of this national policy, any American citizen can publish and distribute almost any kind of printed matter he may choose within the limits of his financial capabilities. There are laws forbidding the publication and distribution of libelous, slanderous, and obscene material; but, for the most part, these are not strictly enforced, especially in the absence of specific complaints. Hence, legally, the citizen of the United States does have virtual freedom of the press.

The individual citizen may write, have printed, and distribute almost anything he chooses—provided he does so with his own funds and effort. What he puts out may be cock-eyed, purely speculative, slanderous, false, or stupid; yet, he may present it as 'the truth.' There are no standards of quality or veracity forced upon the press by the government. Commercial advertising and cult pamphleteering will testify to this. Regulation of what is printed may be imposed by local Blue Laws and by the deterrent of lawsuits that may be brought by individuals or institutions who feel that they have been 'injured' by the publication of false material about them. But the strongest regulation is more subtle than that.

There is a considerable amount of unofficial interference with a free press. The Roman Catholic hierarchy is the most conspicuous of such offenders; it seeks to prohibit the distribution of anything which is not in accord with its doctrines and policies. Veterans organizations, also, on occasion, violate the doctrine of a free press by bringing violence to bear upon 'unpatriotic' publishers and printing plants, particularly those which favor leftist political views and collective living. Then, there are certain Blue Nose censors who object to profanity and to pictures of nudity and love-making (undergarment advertisements excepted).

At the reader end of the free press sequence, the Post Office, certain 'loyalty' investigators, and the neighbors are influential deterrents. Most citizens are afraid to have certain 'types' of literature seen about their premises.

Thus, without any official prohibitions being stated and enforced, there are restrictions in America on a free press affecting the writers, the publishers, the distributors, and the readers. The average citizen does not have the courage to stand firm upon his rights in the face of criticism, whether such criticism is official or unofficial.

Where freedom of the press is exercised to the utmost in the United States is in the printing and distribution of leaflets. There is little in the way of legal cause for suppressing such printing and distribution. Many efforts have been made by municipalities to forbid or complicate the distribution of leaflets, but the Supreme Court recently has voided such interference. Outside of 'protecting the public' against libelous and obscene material, the law can merely act as an observer, however offensive to intelligence, fact, or good taste the printed words and pictures may be otherwise. Any organized opposition is likely to come with behind-the-scenes action of certain goon squads, of which most communities are supplied with one or more, usually under the guise of 'patriotic,' religious, vigilante, or moral groups. And local Law and Order usually manages to be looking the other way when the goon squads go into action. Thus, distributors of leaflets in support of peace, collectivism, public ownership of public property, racial democracy, social equality, minor-

ity religions, nudism, or other 'subversive' cause may find themselves subjected to physical violence or other inconvenience.

Stumbling Blocks to 'Freedom'

If an attempt is made to send leaflets or other printed matter through the mails, these become subject to censorship of the Post Office Department, which is one of the principal offenders against a free press in America. The major powers behind the scenes of this censorship are the State Department, the American Legion, the Roman Catholic hierarchy, and the Unamerican Activities Committee, all of which tend to work together for the same 'moral' objectives. Hence, literature supporting or depicting 'communism,' pacifism, anti-Catholicism, or 'indecenecy,' particularly if it is of foreign origin, is subject to interference or non-delivery by the POD. This action is often supplemented by further local interference, usually where the local postoffice is Catholic dominated, which is too often the case. Once a person is found to be a voluntary receiver of 'verboten' material, all of his mail may henceforth be scrutinized and all the harassment applied to him that the book allows. Thus, many citizens are inhibited from receiving through the mails anything that will attract the Eagle Eye of the postal censorship, as a matter of expediency.

The sponsors of business advertisements in printed forms are strong proponents of a free press, at least in the field of business advertising. They object particularly against restrictions on misrepresentation of their products. Business has always favored the old dictum, 'let the buyer beware.' Falsification and exaggeration are considered proper devices for fleecing the suckers, and the unrestricted use of such devices is what business usually means when it harps on freedom. To keep this practice within the limits of social tolerance, better business bureaus are set up to admonish the more blatant offenders. Also, the Federal Trade Commission exercises some restraint upon them, usually post facto and on a 'cease and desist' basis. Advertisers evade much of the imposed restraint, however, by the use of implication rather than direct assertion. For example, an advertisement will carry a picture of some item, say an automobile tire, and beside it is printed in large figures a price in dollars and cents. When you read the fine print (if you do), you discover that the price refers to a shoddy grade of tire—before taxes are added and after allowance is made for a turn-in of a recappable tire—while the picture refers to a super deluxe grade which comes to more than twice the price shown beside it. A similar trick, used by garment dealers, is to show the picture of some item, perhaps a T-shirt, and beside it in large letters is the word NYLON and below that in large figures is what appears to be a very reasonable price for a nylon garment. Should you read the fine print, you discover that the garment is made of cotton or rayon but that the neck band is sewed with NYLON thread. Such advertisers cannot be restrained legally for false advertising, but it is misrepresentation just the same. Since business is the dominant influence in national affairs, very little is done to restrain its freedom of expression through printed word and picture.

No effort is made, officially, to evaluate the quality or veracity of printed material prepared and distributed by the dominant religious organizations nor to interfere with its distribution. Minority religious groups and anti-religious groups, however, may find their freedom of the press restricted, particularly if they tend to be pacifist or leftist in their secular views. Such restriction is usually imposed indirectly and unofficially, such as through reprisal action against the members of those groups—boycott of their commercial enterprises, discrimination in employment, night-time activities of vigilante 'legions,' or complicated demands and delays regarding permissions for the distribution of literature.

'House Organs' Least Affected

Intra-organization literature, such as bulletins, house organs, and directives may be prepared and distributed with little interference beyond that of organizational and editorial policy. In these issues, freedom of the press is found in its rawest form. The large number of such publications, their limited and restricted distribution, and the manner and purpose of the publications make it very inconvenient and difficult for them to be regularly scrutinized and censored by the guardians of the public mind and morals.

It is when we begin to consider the publication of mass-circulated newspapers and magazines that we find freedom of the press most hamstrung. Not all of the interference is officially or legally

imposed; much of it comes from the nature of the publications and the characteristics of the publishers. Furthermore, such publications are very sensitive to public opinion and are obliged to cater to it.

Most publishers of the major newspapers and magazines are multi-millionaires; hence, they tend to be conservative if not reactionary in their views and in their selection of material. Their economic stake and prestige is harnessed to the status quo. The law does not require a multi-millionaire to be conservative, but it almost always turns out that way. Hence, most publishers are going to emphasize their own conservative social views and deemphasize the opposite views.

Then, the publication of major magazines and newspapers is big business enterprise; and its primary purpose is to make profits. Consequently, such publications tend to appease the common denominator of their readers, since profits depend on mass circulation. This common denominator is somewhere between the juvenile and adolescent level of intelligence and interest; so it means that first consideration must be given to such subjects as crime, violence, horror, passion, sex, sports, and gambling. They must also cater to the prevailing superstitions and mores so as not to disturb any large block of their readers. They must avoid the presentation of radical and controversial viewpoints on social and philosophical subjects. For the more intellectual minority, there are editorials, articles, and commentaries. These may represent different facets of views and opinions; but, like the facets on the face of a cut diamond, they all face in the same general direction. The 'think piece' writers must not support verboten subjects or viewpoints; for instance, they must not be favorable to such things as nudism, atheism, socialism, cooperative living, peace, 'free love,' contraception, or the organizing of consumers.

'Sensitivity' Counteracted

Editors of popular newspapers and magazines are very sensitive to public opinion. A half dozen critical letters on the same item may give them the jitters. With experience, they learn what types of topics and manners of treatment are most likely to draw criticism, and they tend to avoid them or play them down. When it is necessary to print something that is 'sensitive,' as a matter of news, they generally run an editorial which counteracts the import of the news item and clears the publication of complicity in the report. Such a topic at present would be the rapid economic progress of China.

The greatest inhibiter of Freedom of the Press, however, is advertising. Most newspapers and periodicals rely upon advertising for a major part of their take; hence, the advertisers and their products must be respected and (if not too absurd) eulogized. Anything that is detrimental to said advertisers must be handled softly and gently. For example, the influence of smoking on lung cancer has to be reported with an eye to tobacco advertising revenue, and therefore must be accompanied with apologies or counter-testimony of 'experts'; or it may be ignored altogether. Critical comments on the latest models and prices of Detroit automobiles, as well as on the excessive number of mechanical failures in the new cars, must likewise be ignored or played soft pedal. Not only must the products of advertisers be respected but also the persons of the advertisers and their social and political views. Because of this type of influence (along with other reasons), most mass-circulation publications gave favorable treatment to the late Joseph McCarthy because he was the darling of so many big advertisers. When it comes to reporting on the Tennessee Valley Authority (TVA), however, the material must be slanted in the opposite direction (private utilities are big advertisers).

The government is also a strong deterrent to a free press in America. The Post Office Department has, on occasion, barred the sending of books and certain periodicals through the mail when they have contained matter "offensive' to the censors in the POD. Then, a publication may be harassed by investigating committees or subcommittees if it has in its employ anyone suspected of leftist tendencies or if it has given a slightly leftist slant to its reporting of some event or condition. The State Department and the Justice Department (which tend to scratch each others back) are very sensitive about matters of national policy, particularly anything that is anti-fascist. The Department of Defense is sensitive about 'security' matters, meaning, usually, anything that would reveal to the public how lavishly it sqaunders public money or which discloses the type of characters it affiliates with abroad. Hence, government departments are treated with considerable respect by the major publications. About as far as the publications may

go in accepting controversy is giving support to one or the other of the two major political parties, which generally means giving support to the Republican Party, since it is more rigidly conservative than the Democratic Party.

Religion 'Influence'

Organized religion wields a strong influence on the editorial policy of most publications, including all of the major ones. No major church may be attacked editorially, either as concerns its church doctrines and dogmas or as concerns its organizational practices and its social views. Hence, almost never is anything unfavorable to the Jewish, Protestant, or Roman Catholic churches given prominent publicity. When something must be reported as news, it is buried in the back pages in a minor article under a misleading headline.

Many newspapers and magazines have a 'Letters to the Editor' section, in which the public is invited to express its views. These contributions are carefully selected and edited before printing, however, and a great many are rejected outright. The editors have a list of subjects on which they do not allow discussion in the 'Letters' section. Top priority is given to letters praising the publication or supporting its editorial policies.

Other than through letters to the editor, the public has little opportunity to express its views in print. Some people write long letters and articles for possible use in established publications. Very few of these reach print. In the first place, only a few Americans have sufficient command of the English language to prepare their material in an acceptable form. Others write merely for the sake of writing, without either a significant subject or interesting material. Those who do succeed in breaking into print and decide to make a profession of writing, more or less, soon find themselves fenced in with editorial blue pencils. Consequently, they learn to write eruditely and eloquently about routine subjects, with only an occasional diversion into muck-raking and scandal to give the appearance of being sensational and to gain attention to themselves. The majority of commentators and columnists stick to political speculation as their main subject, giving prominence to the stated views of publicity-seeking politicians. And, of course, they are all against sin, corruption, and crime—in certain forms and with reference to certain individuals. When pressed for filler material, they always find it safe and timely to advise people how to drive their cars. To stay in business, they must take puppets like Chiang Kai-shek seriously, no matter how ridiculous may be their utterances; they must be friendly to such tyrants as Syngman Rhee, Ngo Dingh Diem, Francisco Franco, Oliviero Salazar, Ibn Saud, et al, who are currently fawned on by the State Department.

So, this is what passes for a Free Press in the United States. It carries the news and views which are approved by a small minority. The great majority of Americans are inarticulate; they are incapable of presenting their own knowledge and views in printable form, and they take what is handed to them with but little concern (outside of certain adolescent interests) as to whether it is fiction or fact. Many of those who would like o be heard and read, and who do have information to reveal or ideas to express, have little or no opportunity to exercise freedom of the press. You might remind them that they are free to set up a printing press of their own and run off a private publication (or even hire it done by someone who already has a printing press); but, with costs what they are, that is pretty hollow advice. Sure, there is freedom of the press, of a sort, in America; and, like most of our other freedoms, it costs so much that the majority cannot afford to indulge it. The United States is a land of freedom for multi-millionaires; others have freedom to abstain from being free.

Now we may consider the academic question, what would really be freedom of the press? For purposes of discussion, we can offer a casual prescription.

'Freedom' — A Misnomer

Absolute freedom of the press, of course, is impractical. For one thing, too many people would want to use it for too many things, most of which would be so trivial or so personally subjective as to be of no general interest. (Such material, if it must be written up, may as well be left in the manuscript stage; no useful purpose would be served in multiplying copies of it.) Freedom of the press would be defeated if the reading public were swamped under a mass of inconsequentia.

The Social Control would have to exercise some restraint on the use of the press. It must specify minimum standards of quality with respect

to both preparation and contents. It may also require that statements of purported fact be in accordance with established knowledge or be substantiated with objective evidence. Fiction and opinion, of course, would need no such substantiation. Beyond these controls, except possibly for the observation of certain 'decencies,' there need be no censorship or restriction of what is printed and distributed by a Free Press.

In a society which sponsors freedom of expression to the fullest, many limited-edition publications can be printed locally (such as small town and neighborhood newspapers today) to which any individual may submit material for publication. Editing would cover only basic quality of material and the evidence in support of factual statements. Such publications would provide expression for those who desire it in the form of printed words and pictures and they would satisfy the egos of those who seek recognition of this type.

These limited-edition publications would serve as a broad base from which material could be gleaned for larger publications with greater circulation. Material might be selected on the basis of newness, significance, artistry of presentation, oddity, or relevancy to current interests. Such editions would correspond to the present large daily newspapers—in volume and range of circulation, not in content and emphasis.

For widespread mass distribution, a series of magazines could be printed, covering different fields of interest, such as news, philosophical opinion, poetry, fiction, and various specialized and technical subjects. In these magazines, a selection and compilation of previous items could be made, and original articles and reports could be included.

Special items could be further issued in pamphlet form. And the material suitable for preservation as reference material and as permanent records could then be printed in durable form, perhaps also on microfilm.

Such a program of publication, as we have outlined above, should satisfy all the practical demands of a free press. But such a program could be instituted only by a social order that is sufficiently secure in its foundations and its plans for the future as to permit freedom of expression. Also, such a program of publication would have to be conducted as a public service rather than as a business enterprise.

No Price System nation will tolerate a free press. The more authoritarian the nation, the narrower and more rigid the restrictions. For example, no Roman Catholic country would permit the publication of Protestant doctrine; and no Communist country would permit the publication of fascist doctrine.

A nation which is as unstable in its foundations and as shaky in its superstructure as the United States cannot tolerate general freedom of expression, particularly a free press. While its Constitution and statutes pretend to favor a free press, the results are far different. The social pressures, official and unofficial, prescribe a narrowly biased press. Within this area, only, do writers receive substantial rewards. Those who would exercise their Constitutional rights of freedom to publish find themselves in a price and cost squeeze which is enough to discourage most of them. Further, any publication which is, in any way, directly or indirectly, supported by public funds is subject to investigation by congressional committees, both as to content of the publication and 'character' of its personnel. The maximum freedom can be enjoyed only by those whoo can publish independently with their own funds and effect their own distribution. Needless to say, such freedom of the press does not extend to any 'big time' publication.

The Price System, because of its double-dealing and its hypocritical subterfuges, cannot permit freedom of expression in any area which it dominates. It cannot afford to face competition with other ideas or practices. But a Technate would have the solidity of foundation and strength of superstructure to permit such freedom without fear of social upheaval. Ideas are more potent than atomic bombs (to bring an old saying up-to-date). A social system founded on obsolete ideas is always in danger of being supplanted by a new system founded on more advanced ideas. Only that system which can maintain a lead in social ideas need have no fear of ideological undermining. The United States, today, is very fearful of being so undermined, even by social concepts as pallid as socialism.

Let the people of the United States join with the people of other North American nations in the establishment of a Technate; then, they will be secure in their status and need have no fear of practicing freedom.

—Wilton Ivie

Editorial

Let's USE Our Methodology!

Science is a method. A method of determining the next most probable state. Whether the problem is a mechanical, chemical, electrical or a social one, the method is applicable. First is the assembly of facts.

A fact, of course, is the close agreement of a number of observations, made by competent observers of the same phenomenon. It follows, then, that a fact becomes closer to an actuality the more closely the observations agree and the more observations that are made.

Technology is the systematic application of the findings of science to the industrial arts and other uses. Naturally they tend to impinge on each other and today they are practically inseparable. Both are having a profound effect on the structure of our present day society. Man has almost always been a technologist of sorts for the half million years or more since he emerged as a distinct species. But for 98% of his time on earth he was little more than a nomadic food gatherer and hunter. Only in the last 2% of his era has he become first a farmer, then a trader, a builder and a scientist. Only in the last 150 years has he really begun to apply the findings of science to the means of producing the things whereby we live.

Wheels, levers, the inclined plane, the screw are things with which we are all more or less familiar. You could hardly live without them. The men who first devised them, technologists of their age are long forgotten but scientists and engineers pay unconscious tribute to them daily.

The innovations in science have come in spurts, rather than in a steady stream. For instance there was a long lapse of time between Hero's toy steam engine to Thomas Savery's crude engine, to Newcomen and Hawleys, to Watt's reciprocating engine. The basic theories that have enabled us to push back the frontiers of science require time to grasp. There is one encouraging aspect to the time lapse between basic theory and its application, and that is the more we gain in knowledge, and the more problems which have been solved, the shorter becomes the time lag.

Science and technology are the servants of all and should be a benefactor as well. In the formative years of the United States, up to a few decades ago, it resulted in the highest standard of living ever attained by man.

If science and technology have brought benefactions they have brought problems as well. And this is where they have impinged most 'disastrously' upon our social order. This is also where a social system, organized as ours is at present, refuses to submit its problems to the same sort of analysis that has been so successful in solving the most intricate physical problems in the past. It certainly does not require long and careful observations to arrive at the conclusion that the application of science and technology, in the form of fertilizers, insecticides, better seeds, more powerful machines and engines, with increasing use of irrigation, plant and animal breeding, etc., have created more farm products than our monetary system can distribute. Neither does it require profound thought and observation to determine that the application of science and technology, in the form of automated factories, new processes, increased use of non-human energy has resulted in the permanent disemployment of five million out of a work force of sixty-three million. Given these kind of facts, a man must be of sub-moronic intelligence, if he fails to arrive at the conclusion that something is wrong, and that a basic change must be instituted if the problem of our national survival is to be solved. Our present social structure came into being in conformity with the idea that there would always be a scarcity—that there would never be enough of anything to satisfy the needs of everyone. Our present surpluses of food, fiber and mechanical goods, with the resultant unemployment, justifies anyone's concluding that the foundation of scarcity has disappeared and abundance is a near reality. For the past twenty-five years Technocracy has been warning that these problems were implicit in the design of a Price System and that Technocracy is presenting a design for a new social order based upon the realities of this Technological age. Why not look into it now and see for yourself that it meets these specifications.

Status of Labor in the Power Age

Automation is useless unless it can extend the benefits of mass production. It is not the rich who buy the bulk of standard commodities — it's average people! An effective mass market depends upon ample, widely distributed purchasing power.

The trials and tribulations of Labor seem to be multiplying as time goes on. Unemployment continues to be a troublesome problem. Labor leaders have been investigated by congressional committees, along with an occasional industrialist. In short, the Labor-Management controversies continue with little chance of any satisfactory settlement. Walter Reuther's suggestion that the unemployed stage a march on Washington is indicative of the seriousness of Labor's plight.

In 1958, the New Republic, July 21st issue, carried an interview by Henry Brandon with Walter Reuther, in which he explains his position, which is quite interesting, and shows him to be full of ideas and still hopeful of a satisfactory arrangement with Industry.

Mr. Brandon asks why Labor doesn't form a third party. Could they not get more benefits that way? Reuther says no, they hope to be able to work within the two parties, "to bring about a basic alignment, so that the two parties really stand for distinct points of view. As the problems of society become more and more complex and interwoven, the solution must be both economic and political." More and more, he believes, the Democratic party reflects the kind of programs Labor can support, while the Republican party tends to become the spokesman for big business.

"Labor is developing a new ideology in respect to the relationship of wages, prices and profits. We have been against government action bearing upon the economic position of wage earners, such things as unemployment compensation or minimum wages. But in 1932 unemployment became so overwhelming, Labor alone couldn't cope with it, so we turned to government action. Labor can be effective only if it becomes less an economic and more a social movement."

While he perceives the need for re-alignment, he is still committed to the free enterprise system, because, he says, by and large it has worked. "Now, free enterprise has a lot of defects, but instead of trying to overthrow the system, and substitute in its place a nationalized economic system, where we have to bargain with the government, we prefer to bargain with the private employer, but we want to make him more responsible. And so we sit down and talk through and think through what are the basic deficiencies in the free enterprise system, what we can do economically and politically to our common good. That's why we've come up with the privately negotiated pension plan. That's why we came up with the guaranteed annual wage. That didn't come out of the socialist labor movement, it came out of a free enterprise labor movement. . . . At the point that we tie together the private system of pensions with the government system of pensions, instead of weakening the government system we're going to make it stronger. Our private negotiations did more to accelerate progress and to make stronger our public social security system than anything we ever did through governmental action."

Mr. Brandon points out that something akin to a corporate structure has developed in this country. Industry has set up a strong position to counter Labor and Labor has set up a very strong monopoly position to withstand Industry, making government intervention more difficult.

Reuther replies, "Well, the government can do a great deal more about this recession. It isn't. I don't think they know quite what they are fighting. Mr. Eisenhower and his advisers don't know whether to fight recession or inflation and he has to fight them both. The result is, there is a great deal of indecision and lack of any specific action.

"I think we've got to realize that big corporations, big industry are inevitable, based upon our technology. . . . You cannot have small companies in a period of automation, electronics and, down the road, the peaceful use of the atom. Now, big labor is a by-product of the same technological facts of life as big industry is. You can't have small unions dealing with General Motors. You've got to have big unions, strong unions."

Reuther Asks 'How?'

As Mr. Reuther sees it, the question is, how do we live with bigness and make it responsive to our needs? How do we avoid the human individual getting lost in the shuffle, in the wilderness of bigness? He describes how each corporation possesses its own special knowledge concerning matters with which it deals, such as automation, auto manufacturing, electric gadgets, or chemicals. We need an overall system that views the total accumulation of facts and correlates them. Automation brings the problem of learning to live with abundance, and the only way we can live with abundance is to manage it and share it. We must learn to live with abundance.

In answer to the question, what should be the role of government in the field of technology, Reuther said, "We don't want a big bureaucracy to sit in Washington, pretending to know all the answers to these complex problems. What we want is a sort of supra planning board—a sort of clearing house for ideas, where a top group sit down, evaluate, and make their recommendations. They should make no decisions, however. Implementation would be left to the individual groups. No one person is in a position to know all the angles. We need a good representative from each field, so that they can view the total economy from the accumulation of its separate impacts.

"You take the question of atomic power; if you trace the development of industry in America, you find that the pattern of industry grew out of and reflected the sources of power. Now with atomic energy coming in, you can put the plant anywhere, because a truckload of atomic fuel will operate a big plant for several years. That means we can begin to plan. We can arbitrarily decide to have an industry anywhere.

"We've got to give people the educational background, the stimulus, so that they will be interested in other kinds of consumption besides gadgets. And that means the ability and desire to spend a larger portion of their time . . . in the pursuit of constructive and creative leisure. We will be confronted very soon with this very real problem, that we may overfeed the outer man while we starve the inner man.

"A fellow working in the Cadillac plant can be a part of making a Cadillac but he gets no sense of achievement. In earlier days there was a little bit of the craftsman in what he made. There was a sense of creation . . ."

He thinks more people will have to be shifted out of manufacturing work and into other categories. Thousands of young people with potential capacities for education in fields of the professions, teaching, civil services, etc., don't have the economic resources to get access to this education. We must decide what kind of society we are trying to make. We must now give the great mass of people access to culture and opportunities to facilitate the growth of the inner man. The trade union movement is important, only as its facilitates these long range objectives. Automation is important, only as it provides the tools to create the economic base upon which the mass can have access to what only the few have had access to in the past.

"At the point where everyone has all the things he needs essentially (housing, food, education, etc.), then the values that get associated with having 3 Cadillacs are going to go, too. And in their place we are going to develop new and more fundamental values. I can't say just how it will be, because I don't know. It'll be different, that I do know. There's going to be a shift in the next 25 years. The number of people engaged in personal industries is going to bring about quite a difference in the structure of the whole society, in terms of economic groupings."

He declares that trade union movement is going to change its character. It will have to fight for economic policies that reflect the needs of our whole society. The profit-sharing idea was not a demand, it was a mechanism.

Unions Demand Share

"Our problem is, how do you find a way to work out the sharing of an economic pie when you don't know how large it is? So we say, 'give us a down payment now, represented by our minimum demand, and we will defer the realization of the balance of our equity until you've completed the year, the consumer has paid his price, and you've

made your profits.' Now, this is not an original idea. General Motors, Ford, and Chrysler Corporation do it exactly that way in respect to their executives. They give them a down payment in terms of the base salary, which is supplemented at the end of the year by a share in the profits. They get a share in the profits, not as stockholders, but as employees. We're asking for our share in the profits because we don't know of any other rational way by which we can get our full equity on a basis of certainty that we won't create any inflationary pressures."

The recession, he says, came as the result of Industry's greatest expansion in history. It proved to be over-expansion, in terms of purchasing power. At the point you expand production power by building $285 billion worth of new, modern, more efficient factories, you will ultimately have to expand the market to absorb the greater productivity. "We didn't shift over to the expansion of purchasing power soon enough." (The understatement of the year).

What About Future?

When asked what future he could see for the trade unions, Mr. Reuther admitted that the movement would decline, proportionately as automation replaces workers, but the membership in other fields would increase. Office workers will organize to protect themselves.

(Reports, however, indicate that white collar workers are shying away from unions, and factory workers in the South are in some cases actually hostile toward union organizers. It seems they have been told by their bosses to have nothing to do with these "Yankee nigger lovers" and sectional and racial prejudice flares up anew.)

Mr. Reuther observes that the American people, and, in a sense, the whole Free World have not yet fully comprehended the dimensions of the challenge we face, so we retain the "business as usual, diplomacy as usual" attitude when we should be trying harder. We should put more of our gross national product into education. We've got to realize that our real challenge is on the social and economic fronts, but we need to be strong on the military front, as well.

Here Mr. Reuther proceeds to tie several items together in a neat package. India is working in her second five-year plan. They are moving a mountain, constructing a dam to capture the Monsoon rainfall, building an irrigation system and roads. They are using a few big earth-moving caterpillar tractors manufactured at our Peoria, Illinois, plant. Behind the machine are hundreds of native people with wooden shovels and straw baskets. The baskets are filled with dirt and carried away on the heads of women and children. When asked by Reuther whether they could use more machines, the chief engineer replied yes, they could if only they had the price to pay for them. Meanwhile a reduced number of employees were working only 3 or 4 days a week at the Peoria plant. There are hundreds of those machines parked there. If India had one week's production, lost by unemployment, she could finish her project on schedule, and we would win her friendship and cooperation in the struggle, both economically and socially.

'Margin of Survival'

"I happen to believe that those billions lost in under-production can be the margin of survival, because it is in this area that freedom must demonstrate its superiority—the capacity to take care of basic human problems within the framework of human freedom, and the great tragedy is not that the Russians are better than we are—they're just doing better because they're trying, and we aren't."

While we do not doubt Mr. Reuther's sincerity, we can't help wondering how much some of his suggestions would have helped the masses not associated with U. A. W. such as his profit-sharing idea, if Industry had accepted it. Would they have agreed to educate potential teachers, scientists, etc., or would they merely have become more bourgeois?

There is a germ of an idea in his supra planning board that could be enlarged upon, but if its capacities are limited to offering recommendations, would the various groups involved accept their suggestion? If not, then what?

He mentions the "billions lost thru underproduction" as being the margin of survival. Previously he says Industry had over-expanded and got way ahead of distribution. India says she can't afford the price of those tractors (wouldn't they displace Indian laborers?). The price tag is the barrier between product and consumer, in either foreign or domestic trade. The Peoria plant, with its drastically reduced labor force had man-

aged, in 4-day weeks, to produce acres and acres of tractors that were just standing waiting to be sold, and he calls that under-production. He doesn't make clear in what way India's getting one week of the production lost by unemployment at that plant would make any noticeable difference in the general unemployment picture in Peoria or elsewhere. Doubtless he used this only as a specific example, but he doesn't say. Incidentally, a segment of the population is violently opposed to foreign aid, claiming its a strain on our resources. Others believe it creates good will. So the controversy rages.

Labor's Dilemma

Labor, thinks Mr. Reuther, should stay with Free Enterprise, because, in spite of defects, by and large, it has worked. Then why doesn't free enterprise find jobs for millions of unemployed? It can't. Meanwhile Industry is advertising its wares thru every conceivable medium of communication, to the despair of would be consumers and the joy of the advertisers who get the cost deducted from their income tax. This saving can buy more machines to displace more laborers. Round and round it goes and where it stops—.

Automation is useless unless it can extend the benefits of mass production. It cannot extend these benefits unless there is a mass market to absorb the goods. An effective mass market depends upon ample, widely distributed purchasing power. If wage packets are limited to permit no more than enough for primary wants, then there is no market for appliances, gadgets, services. It is not the rich who buy the great bulk of standard commodities, but average people.

Mr. Reuther has done much, however inadvertently, to prove the very point that Technocracy has been insisting on for years—you can't achieve a FAIR distribution of abundance under the Price System. What Labor should do is join Technocracy's ranks in a body and learn the facts of life, and what the real solution is. Remember, Extraneous Energy plus Automation are the catalytic agents that will produce social and economic change on the North American continent. The hour approaches and we can't turn back the clock of Progress.

—Henriette Philips
Sec. 1-11140

'Profits' of Doom?'

"Unless we change our course we are going to certain disaster in our fiscal economy," says Sen. Harry F. Byrd.

By disaster he means depression and worse. Memories of the Thirties should cause the country to heed his warning. Inflation progressively pinches living standards. But that is only a small part of the story — this nation could survive on a lower standard of living.

It cannot survive, in its present democratic form, if our monetary system is destroyed, paralyzing our ability to produce and exchange goods.

Much is made of America's inability to build Sputniks and missiles in competition with the Russians. Destroy the monetary basis of our economy and we can't even produce shoes.

High expenditures might be tolerated, though reluctantly, if they meant only slimmer family budgets caused by higher taxes. The real danger lies in the delusion that these Government costs can be met simply by entering them in the Government's books as debt. That makes printing press money — in actual effect, so much counterfeit.

The dollar now is down to 48 cents. The continuing process will destroy more of the purchasing power of even this 48-cent dollar. No one has to guess the end results. We know what happened to the French franc and the German mark under similar circumstances.

And, as Sen. Byrd says, "When the American dollar goes down, then the currency of the world collapses."

—Excerpts from an editorial in the Washington (D.C.) Daily News, August 19, 1958.

(*All of this is correct, and yet does Byrd or any other Congressman or Senator—reactionary or liberal—have the honesty, much less the guts, to expose, denounce, and vote against the Cold War policy of the U. S. government administration—which accounts for over half the entire Federal budget and all the Federal debt? What would happen to the Price System if they did? If they utter dire warnings about the wastage of little green pieces of paper, which mean so much to them, and their Price System, but don't dare do anything to stop it—why expect politicians to do anything about the wastage of mineral and human resources, which mean nothing to them!*)

Science in the News

San Francisco, Jan. 13—How do you boost the speed of greased lightning fivefold?

International Business Machines Corporation, in effect, has solved this riddle. The company yesterday unveiled its new IBM 7090 electronic brain that can compute up to *five times faster than its already super-speedy predecessor*, the IBM 709.

The new electronic computing device (thanks to the replacement of all vacuum tubes with ultra-fast transistors) can: perform 210,000 additions or subtractions in one second; simultaneously read and write at the rate of 3,000,000 units of information a second.

Perhaps, though, the most important new product announcement *is the new automated banking system which can handle 900 checks a minute — slashing check handling time by 50 per cent*, IBM says.

* * *

San Francisco (AP)—Highway directors urged electronic controls over America's crowded high-speed expressways.

Present system of asking "an undermanned police department to control this overwhelming mass of traffic" with traditional equipment "is as modern as button shoes," William J. Mortimer of Chicago told the closing session of the American Association of State Highway Officials convention.

"Sending an officer in a patrol car to straighten out a traffic mess on a crowded expressway can be compared to sending him out armed with a cornstalk to subdue an enraged grizzly bear," he said.

Charles M. Noble, director of the Ohio Department of Highways, told of radio devices that will flash signals on the dashboard of speeding cars, automatically apply their brakes and even take over control of steering. The speed control device is in use in some areas.

Huge sums are being saved in an aircraft plant with the installation of automatic riveting machines. *The automatics can operate three to five times faster than the old hand operated variety*, eliminate the noise of regular riveting guns.

The big machines obey a reel of punched tape, jump over obstructions, move from one row of rivet-pattern to the next, and stop by themselves. When engineering changes require revision of the riveting pattern in an aircraft panel, the tape can be cut and a new punched pattern inserted, as in movie film.

* * *

Two million eggs — enough to make a breakfast omelette for every person in San Francisco, Marin and Solano counties — are processed every day at the new San Leandro headquarters of Poultry Producers of Central California.

A marvel of electronic efficiency, the plant is the largest automatic egg processing center in the world. At a cost of $2.8 million, it is the center of operations for the 10,690-member association.

In an almost completely automatic operation, eggs are removed from refrigerated trucks, lifted from their farm cases, inspected by candling, automatically weighed, cartoned and made ready for market. Thanks to high speed equipment, *an entire van load of eggs, 13,500 dozen, can be unloaded in 4½ minutes* and moved along the plant's 15 miles of roller conveyors.

* * *

London (Reuters)—Russia's first *fully automatic coal mine, to be run by remote control*, will be operating this year in the Donbass area of the Ukraine, the Soviet news agency, Tass, said recently.

About 80 automatic machines are being installed and *one man will be able to direct the whole production process.*

THEY ARE CATCHING ON

Technocrats have been saying for years that scientists and engineers should be the dominating figures in this age in the shaping of our society and our future course of government.

For many years the Technocrats have noted that the press and other means of dissemination of news have either been hostile or negligent about telling the public about the trends of the times. Many of these media have been, and still are, engaged in either glossing over these trends or just plain denying or lying about what to us are the obvious results of such things as unemployment, automation, productivity, surplusses and kindred subject.

It is now interesting to us as citizens and Technocrats to see that occasionally, but with increasing frequency, editors, radio and television commentators and writers on scientific and economic subjects are beginning to espouse some of our ideas. Of course they do not tell them Technocratic ideas but the force of events is driving them to the realization that there is but one solution to the problem. We as Technocrats could hardly care less when they arrive at one of our solutions and fail to give us credit. What we are interested in is to have the problem solved.

So it is encouraging to us when we read an article such as the one which appeared in the Los Angeles Mirror quoting the Governor of Utah, in which he says, "Lawyers wield too much authority in running our government," and that "scientists and engineers should be the dominant figures in this age of the shaping of our society and our course of government."

"In the increasing specialization of our times, trained experts should be at the policy making levels — not merely in staff positions where they carry out the orders of others."

We as Technocratic citizens have been saying just exactly this for the past 25 years.

Then we run across an editorial in the San Mateo Times which is entitled "Gone Forever" and we'll quote it entirely. "One of the troublesome after-effects of the recent recession is the problem of technological unemployment. This has shown up particularly in the Michigan automobile factories. The plants are humming again, turning out more cars than a year ago — but with fewer workers.

"What happened is that the manufacturers used the recession period to introduce new machines and new procedures that increased productivity. This is one of the paradoxes of modern industry. Increased productivity is desireable — in fact, a must, if a constantly rising living standard is to be maintained — yet greater productivity throws men out of jobs.

"There was a time when laid-off workers could go back to the farms, but today the parade is away from the farms which have turned to labor-saving devices, too, to increase productivity."

Losses to Technology

Many times in the past 25 years, speakers and writers for Technocracy have used examples such as the Glass-blowers, the Cigar Makers, the telegraphers whose jobs have been taken over entirely by machines and more recently the coal miners, assemblers, machinists and countless other people who are losing theirs to electronically controlled machines.

Again we find a nuclear physicist who is getting the idea that science and society are inextricably mixed in the atomic age. A Dr. Lester E. Ruekema, a research scientist in the field of nuclear physics at a Woman's Forum said in part, "Negotiate, or we are on the brink of disaster."

"The probability of all-out war in the next few years is microscopically small. It is inconceivable that a leader of either side would start a war which he knows could result in the annihilation of both sides. But when deterrent power is hailed as a final solution, what a perversion it is on the lofty conception of peace.

Determining Factors

"The first step is for both sides to change their propaganda. The information published by each side in the cold war, about the other parties, is false and exaggerated.

"The second step, is for co-operation in meeting the needs of the under-developed countries. Soviet Russia and the United States should be working together, to combat ignorance, hunger and disease.

"Deterrent power can, in no sense, be considered a real safeguard against war which nobody wants but which happens anyway.

"It would be possible for a meteor falling on Russian or American territory being mistaken for an enemy bomb, thereby letting loose retaliatory bombs which would initiate a war, the accidents possible when an armed missile goes out of orbit and falls on Russian or American territory; the danger of an over zealous soldier letting loose an unauthorized attack."

Now this sounds very much like the things that Technocratic speakers and writers have been trying to get across to the American public since before the so called "Cold War" started.

Long before "Sputnik", Technocracy was warning that our entire educational program needed revamping both in content and methods.

Blueprint Stage

Dr. Lloyd Trump, of the University of Illinois, presents a blue print of a revolutionary school of the future. He says that our present method of having one teacher to 25-30 pupils dates back to the teaching of the Rabbis 20 centuries ago. In the school of the future, classes should range from 100 or more, using a master teacher to present the subject with educational television as an assist, then with general teachers with groups of 10-15 pupils in discussion groups.

Technocrats have been advocating the use of all the modern aids that science can devise. Thus the most competent people could do the teaching without having most of their time taken up in administrative or routine work. When eventually America installs the Continental Hydrology with waterways all over the continent, it will be possible to have floating schools where the youth of our nation can be conveyed to every part of our land and see for themselves the various ways in which each part of the Continent contributes to the whole economy.

Technocrats should take heart and work more diligently at the task of informing Americans as to our destiny. If we, as Technocrats, had to pay for the kind of publicity our program is getting right now, we would bankrupt ourselves. Now you can appreciate what Mr. Scott meant when he said that the "force majeur" of events would compel the price system leaders to capitulate.

L. M. Proctor
Sec. 1-11834

Profits Before Conservation

Boston (AP)—The boot and shoe workers union today accused "a growing number" of shoe manufacturers of resorting to "a razzle-dazzle of fashion baubles and honky-tonk glitter" to conceal cheap shoes.

The 60,000-member union reported that "in some type of footwear, consumers are getting less for their money than they expect and deserve."

The accusations were contained in a report the union termed "A Shoe Evaluation Study."

It said the cheapening of shoes "comes in the use of inferior materials, lessened wear potential, shoddy construction, poorer fit, endangering foot health, and the generally second-rate performance of an increasing share of lower-priced footwear with deliberatley built-in obsolescence."

The union called that "public price deception."

It said a growing number of shoe manufacturers are "downgrading their shoes in a distorted claim that consumers prefer to buy 'prettied-up shoddy shoes' rather than shoes that give decent value at reasonable prices."

(*It is characteristic of the Price System to produce a shoddy product for the sake of profits. But in a Technate we would produce things to wear for a long time thus we could conserve our resources.*)

RESEARCH BULLETIN

A Grim Prediction

San Francisco, (AP) — A Nobel scientist estimated recently 50,000 Americans will die of cancer or will develop serious disease from fall out of atom bombs so far tested.

If the testing continues, he added, radiation from present fallout can be expected to produce mental defects in 23,000 persons yet unborn.

The predictions were made by Dr. Linus Pauling, of the California Institute of Technology. Dr. Pauling talked to a press conference and later addressed a dinner meeting of the American Orthopsychiatric Assn.

In giving his estimates, Dr. Pauling said the Atomic Energy Commission had been less than honest in evaluating the extent to which fallout is likely to affect adversely the health of the public.

School Enrollment

Washington, Mar. 27 — The Census bureau reported U. S. schools and colleges enrolled about 42,800,000 students in the fall of 1958, up from 41,200,000 a year earlier.

College enrollments advanced to 3,300,000, a 200,000 increase the agency said, while the number of high school students mounted from 9,000,000 to 9,500,000. Students enrolled in elementary schools climbed to 28,000,000 from 27,200,000, while kindergarten enrollments jumped to 2,000,000 up from 1,800,000.

About 30% of the male college students and 13% of the co-eds were married the report added.

Teachers in schools below college level totaled 1,600,000 last October, the agency said. This was a 45% increase over the number of teachers counted in the fall of 1950. But during the same eight year period, officials added enrollments showed a 60% increase.

Free Enterprise

Long Beach Independent, Washington, Mar. 31 (AP) — The Federal Trade Commission Monday filed an antitrust complaint against the National Tea Co. of Chicago, the nation's largest food chain.

National Tea was accused of violating the Clayton Act by acquiring 13 corporations and their 440 stores during the past seven years.

Going beyond this case, the FTC criticized what it called increasing concentration in the food industry — the nation's largest. It reported that 20 percent of the retail food stores account for 72 percent of total sales.

Hay's 'Heyday'

A fast, efficient way of cutting, baling and storing hay is certain to make the farmer's life considerably less complicated. The new method, called hay in a day, was developed by the New Holland Machine Company.

A specially designed machine begins the process and handles the first phase of mowing and crushing in a single operation. Then a mechanized raker takes over the next stage to roll up the hay in the windrows to prepare it for baling. The bales go directly to a crop-drying trailer; when this is loaded, a portable dryer is hooked up for the final process before storage.

One dryer can handle up to four wagons (10 tons of hay) in an overnight period. This is an average 24-hour job for the new haying technique. The advantage of this system is that it eliminates the weather problems of a normal operation, in which hay may be cut and raked one day, and dried, baled and stored on succeeding days. In the event of rain, or periods of damp weather, farmers have had to discontinue operations until the weather cleared, and then wait for the hay to dry.

'Dat Debbil'—Again!

New York, Jan. 24—Many of the country's major mass production centers are haunted by the prospect of permanent pools of jobless workers as a carryover from the recession.

A survey of correspondents of the New York Times in 16 big industrial cities this week indicated widespread doubt that any foreseeable improvement in business this year will cut unemployment to pre-slump levels.

Detroit, capital of the automobile industry, *has one-eighth of its work force idle—at a time when output of 1959 cars is climbing toward its scheduled peak.* Pittsburgh, traditional center of steel and coal production, has twice as many unemployed as it had in the recession month of January a year ago. One worker in every 13 is still jobless in New York City, against a national average of slightly less than one in 16. In California, the San Francisco Bay district paced the upturn while the Los Angeles industrial district showed less gain.

The expectation of many communities *that unemployment will stay relatively high stemmed from a variety of factors*, almost all of which had begun to assert themselves before the fall-off in business.

In manufacturing industries, such *technological advances as automation — the use of electronic brains to command mechanical muscles — have cut manpower needs.* The unemployment created by these scientific discoveries has been accentuated by a parallel development, the tendency of industry to squeeze out its least efficient productive units as a means of trimming costs.

The transfer in military emphasis from tanks and other heavy equipment to electronic devices and from aircraft to guided missiles has caused a substantial reduction in requirements for industrial employment on defense programs. The armed forces themselves have shrunk by one million men in the last four years, adding to the civilian labor supply.

The extent to which jobs have lagged behind other elements in the industrial upturn is indicated by federal statistics for December. These showed that *only 30 per cent of the decline in non-farm employment had been recovered since the low point last April, even though the gross national product* — the sum of all goods and services — *was virtually back to its previous high.*

The 'official' unemployment total last month was 4,108,000.

Rat Race

Federation News, Mar. 21 — During the past three years the average factory worker in the United States not only has failed to secure an income that would enable him to maintain his family on "the commonly accepted standards of living", but has actually fallen behind.

This conclusion can be drawn from the latest budget report of the Heller Committee for Research in Social Economics of the University of California.

The Heller report for 1959 estimated that a wage earner with two children and living in a rented home needed $6,086.88 a year or $117 a week, to give his family the standard of living "that public opinion currently recognizes as necessary to health and reasonably comfortable living". This was $4.90 more than in 1957 and $10.50 more than in 1956.

Yet the average weekly earnings of factory production workers during 1958 was $83.71 — far from the budget called for in an area whose cost of living is about the same as in Chicago and Los Angeles and is only a shade higher than such cities as St. Louis, Boston, Minneapolis and Baltimore.

Not only was income far below the necessary minimum. but during the same three years the cost of living climbed far more rapidly than did income.

In 1956 a wage earner who rented his home needed $107.55 a week to live under the Heller budget. By 1958. he needed $117.05 an increase of $9.50 a week. Yet during that same period factory production wages went up only $3.72 a week.

Yet during those same years income for the average factory production worker went up only 4.6 percent for a serious loss in buying power.

The impact of taxes, especially on the State level where the regressive sales tax has hit the low income family hardest. hit the wage earner far harder than the salaried worker.

Thus the Heller budget shows that state and local taxes for the wage earner have gone up 59.2 points during the past three years and only 12.4 for the salaried worker.

'Shocking' Statistics

Washington, Mar. 1 — (AP) — A housing subcommittee lifted the secrecy veil from U. S. overseas military aid slightly today to report it was disturbed and shocked at waste it found.

The unanimous report by the foreign aid and watchdog group headed by Rep. Thomas E. Morgan (D-Pa.) foreshadowed trouble for Pres. Eisenhower's $3.9 billion aid program when it goes before Congress this month.

The subcommittee reported it discovered one U. S. ally was building airplanes for the personal use of its officers with facilities America had provided to keep up military equipment.

These other findings were reported:

A foreign motor pool got enough tires out of U. S. aid in one year to put 44 tires on each truck.

American materials intended for military construction were used to build apartment houses for foreign civilians.

Poor record keeping by natives who knew little English produced cards which read "for so many cases of 'this side up'."

One U. S. aided installation had a 185-year supply of a single ammunition item. In another case there was only one 2½-ton truck engine carburetor in stock for an entire army.

"There can be little question as to the facts," the subcommittee said in reporting that most of its evidence came from the Defense Department's own investigations.

The congressmen held lengthy hearings behind closed doors on aid to such countries as Korea, the Indochina area and Pakistan. But the Pentagon put such a tight secrecy lock on the information, the subcommittee said, that it was barred from issuing even a censored transcript of the testimony.

The congressmen finally issued their own report which named no countries and was sparse on specifics. They said the State and Defense departments imposed secrecy to keep details from the Communists and because the cases "reflect unfavorably on officials or policies."

(Is it any wonder that the congressmen held their meetings behind closed doors? Who would want such puerile actions to become public knowledge? It surely would give aid and comfort the Communists to know just how insane this side is. Also it undoubtedly reflects on the policies of the State, Defense Dept. and the Pentagon.)

It Pays to Keep Well!

A leading firm of health and welfare consultants, Martin E. Segal and Company, recently reported that hospital costs have gone up an amazing 258 percent in the past 12 years. In 1946, the average cost per patient day for all short-term general hospitals in the USA was $9.39. Last year it was up around $25. This year it will be higher.

—The Machinist, September 4, 1958

No Workers Wanted

New York-Texas Co. said an electronic brain is completely controlling the operations of a $4,000,000 refining unit at its huge Port Arthur, Texas, refinery.

The digital computer in charge analyzes data and performs calculations for control and feeds back its judgments into the plant for actual control of its operations, according to Texaco.

The plant is a polymerization unit that takes a mixture of various gases, primarily propylene, ethylene, and propane, which are co-products of the company's cracking processes, and hooks molecules of propylene together under high pressure and temperature control in the presence of a catalyst. It then turns them into high test gasoline blending stock. The unit handles around 15 million cubic feet of gas per day and has an output of blending fuel of over 1,800 barrels a day.

The electronic control is a Thompson Ramo-Woolridge RW-300 digital computer.

While carrying out its complex control program — gathering information from 110 sources and controlling 16 different streams, pressures, and temperatures in nearly every combination — the computer also checks the accuracy of its information, watches its own performances, types out what it is doing, and sounds an alarm if any part of the system shows signs of impending danger or failure.

In a modern Chemical plant the control must be so exact and the quality of the product so high that it is no longer desirable, nor safe to trust the operation to fallible humans. Also when more productivity is wanted the human being has to get out of the way.

MORE LEISURE AHEAD

Greater leisure is no longer a mere work-sharing device — no matter how it was considered in the past. In today's world, the very consumption of goods pre-supposes increased leisure.

This article is reprinted from the Painter and Decaratars Journal by permissian of the International Union Digest.

"Check steel employment about January 1, when we'll be up to about 90 per cent of production and you'll find yourself a real story," an unnamed steel executive recently told a Christian Science Monitor correspondent.

The steel executive was referring to unemployment and jobs in his industry. He declared that when the steel industry again reaches optimum levels, many steel workers will still be without jobs.

"The story is already here," according to the executive, "See that 510,000 total employment for June. That for 61.7 percent of capacity production. As we go to full capacity production that employment figure is going to remain substantially the same."

The Monitor reported a "significant" movement afoot in the steel industry. New techniques and efficiencies have been introduced with the intention of getting greater production with fewer workers.

One steel observer was quoted as saying, "A lot of steel workers are out of the picture forever. They merely think they have been laid off and that higher production will mean further employment. It just won't happen that way."

The steel story has long been in the making. Manhours required for a ton of the metal have declined from 16 in 1941 to 12 today.

Because of rising productivity and continued high employment throughout the industry, the Steelworkers Union has approved a program listing shorter hours as a key demand in contract negotiations next year. The union has stressed that although production has risen significantly, mass unemployment continues to plague the industry.

As its convention opened in mid-September, Steelworkers President David J. McDonald pointed out in a letter to President Eisenhower that 200,000 of his members were still jobless while another 200,000 were working part time. This condition, he added, is not limited to his industry.

"The other great industries face the same conditions—rising productivity and a steadily decreasing number of employees during the very period when the total labor force is rising sharply."

A recent account of a new cement plant being built at Lime Kiln, Md., between Baltimore and Washington, emphasizes McDonald's warning. The account reported matter-of-factly that the new Alpha-Portland Cement Co. facility will be able to supply the major requirements of both metropolitan areas. At full capacity, the new push-button plant will require the services of only 140 workers.

'White Collar' Mechanization?

Although the all-robot office and store are still a distance in the future, great strides have been made in automating and mechanizing white collar areas. More and more, management is emphasizing its intention of cutting white collar labor costs through the use of computers and similar office and store automation.

Science Service, a news agency covering science and technology, has reported the development of an electronic digital computer especially designed for office bookkeeping. This computer will permit the manager of a chain store to calculate the state of business at any time and relay the results to the home office via teletype.

The 1960 census will employ FOSDIC, a new device recently perfected by government engineers

at Census Bureau headquarters. This device 'will do a job that 2000 or more punch card operators did in the 1950 census.' Savings of millions of dollars will be achieved and full details on the country's population will be available 'months earlier' than previously.

An electronic device that teaches itself and is able to "perceive, recognize, and identify its surroundings" has already been demonstrated in embryo by the Navy. Official statements have it that the device, like humans, will make mistakes at first but will "grow wiser as it gains experience." Fittingly, this computer has been named Perceptron. Although its final development is still in the future, the horizons that Perceptron will open up in displacing human labor on routine jobs—and many not so routine—seem almost limitless.

Revolution on Land

While its impact seems to have been ignored in the fast march of world events, a new industrial revolution is gaining impetus on land. Chemistry, mechanization and soil science are combining to create larger and "more efficient" units. The very plenty that the farms now produce is destroying the small farmers at an appallingly rapid rate. Each year some 150,000 farms are taken out of production or combined into "economic units."

This same mechanization is also displacing agricultural labor. Cotton picking is a case in point. Here, huge machines costing from $10,000 to $15,000 each, are displacing native and imported Mexican labor alike. Each machine is capable of picking as much cotton in a day as from 40 to 70 experienced field hands.

"This is the real beginning of the mechanization of the South. In the next few years, 65 percent of the cotton grown will be picked mechanically—and the middle South will reach that figure in three years," the manager of a mechanical cotton picker manufacturer has happily predicted.

These developments mean an increasing number of displaced farmers and farm workers to the city. In 1929, it took a farm population of 31 million to supply the nation's 125 million souls. Last year, only 19 million were on the farms, although 172 million Americans were oversupplied with agricultural products. A decade from now, a farm population of only about 12 million is expected to take care of more than 200 million of us.

Meanwhile, other factors are also swelling the labor force at a rate that could spell trouble. The bumper crop of war babies of the early forties is starting to enter the labor market. One economist has estimated that by the mid-sixties, there will be a need for at least 80 million jobs.

The new technology with its attendant displacement of workers in the factories, offices and on the farms spells a whole series of knotty problems. Higher productivity lies ahead and without doubt will be translated into higher living standard —in time. But unless adjustments are made soon, the nation is threatened with continued mass joblessness.

The unemployment figures for last August illustrates what is happening. Despite rising production, construction, and trade, the rate of joblessness was higher than any month since the end of World War II. Heavy unemployment is freely forecast for this year even if there is full recovery to past levels of economic activity.

The past several years have seen heavier investment in new factories, equipment, and methods than ever before. That investment is beginning to pay off for industry. Because of it and the growing army of new workers, more goods and services than ever can be turned out without achieving full employment.

Recent Federal Reserve figures emphasize the trend. These show a phenomenal growth of productivity during the past months of recovery. As of August, output per manhour was 10% greater in manufacturing industry than in the previous year.

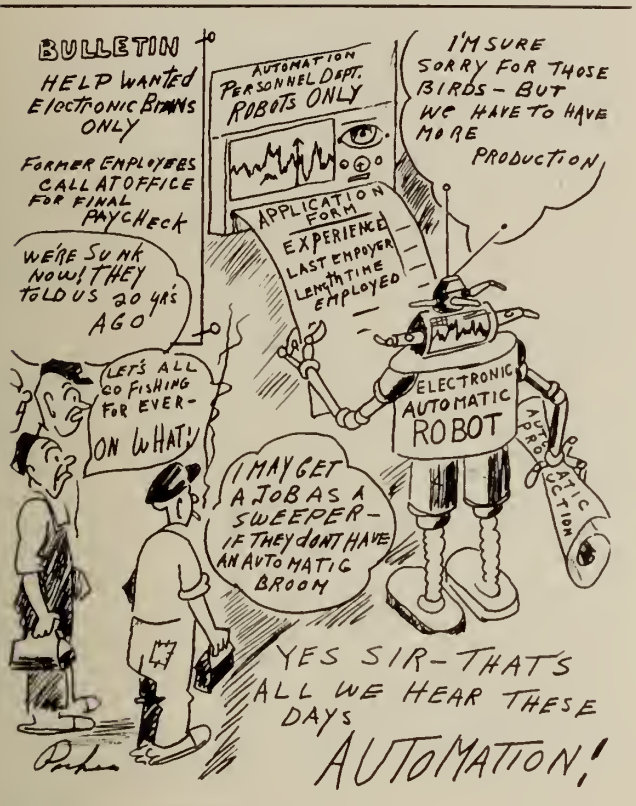
Part of rising productivity must now be reflected in greater leisure for America's working people. This does not mean the reduction of the work by a single hour a decade hence, but significant movement starting now.

Not Work Sharing

Greater leisure is no longer a mere work-sharing device—no matter how it was considered in the past. In today's world, the very consumption of goods pre-supposes increased leisure. Sports equipment, automobiles, backyard living equipment—things like these account for an increasing share of the consumer dollar.

Longer vacations, shorter workweeks and shorter workdays create jobs. Hotels, motels, restaurants, gas stations, airlines, and many other service

industries are linked with the uses of leisure. These industries must grow if the nation is to prosper. Their survival and expansion depend upon two things—higher wages and greater leisure.


BULLETIN
HELP WANTED ELECTRONIC BRAINS ONLY
FORMER EMPLOYERS CALL AT OFFICE FOR FINAL PAYCHECK
AUTOMATION PERSONNEL DEPT. ROBOTS ONLY
APPLICATION FORM
EXPERIENCE
LAST EMPLOYER
LENGTH TIME EMPLOYED
I'M SURE SORRY FOR THOSE BIRDS - BUT WE HAVE TO HAVE MORE PRODUCTION
WE'RE SUNK NOW! THEY TOLD US 20 YRS AGO
LET'S ALL GO FISHING FOR EVER-
ON WHAT?
ELECTRONIC AUTOMATIC ROBOT
I MAY GET A JOB AS A SWEEPER - IF THEY DON'T HAVE AN AUTOMATIC BROOM
YES SIR - THAT'S ALL WE HEAR THESE DAYS
AUTOMATION!

The America of today would not exist without the five day week and the eight hour day. Those who foresaw doom when these were achieved have been confounded many times over. Nevertheless, they still croak the same old tune whenever the problem of greater leisure is proposed.

Although the movement toward shorter hours has not been rapid enough, significant progress has been made. Over the past 20 years, America's unions have obtained what employers not too long ago dismissed as impossible. Through collective bargaining, a beginning has been made toward the new age of leisure.

As a result of union contracts, most industries now have holidays with pay. Although there are definite limitations on the amount of time off that can be won in this manner, the trend is toward more paid holidays.

Far more important in the development of a more leisured America is the trend in paid vacations. Two decades ago, these were virtually unknown except for white collar workers. Unions are now blazing new trails in paid vacations and as a result, industrial workers have at least caught up with their white collar contemporaries.

A recent U. S. Department of Labor study showed that in 1940, only a fourth of U. S. wage earners had annual paid vacations—in most cases a maximum of one week.

Collective bargaining has changed this—"with profound social as well as economic implications." By last year, "all but eight percent of 1,813 contracts covering 1,000 or more workers providing for paid vacations of three weeks were the rule rather than the exception."

Most workers, it is true, still enjoy only a two week vacation with pay. As yet, three week vacations are reserved for workers with 10, 15, or more years of service.

Expanding Vacations

Collective bargaining, nevertheless, is continuing to exert pressure in this area. More workers are becoming eligible for three weeks after 10 years, while 20 percent of contracts included in the Labor Department survey already provide maximum vacations of four weeks.

Extended vacations will be an important part of the coming leisure age. The time must come relatively soon when the three week vacation is standard for workers with a year of service, while four weeks with pay after five years is taken for granted.

Some labor spokesmen have pointed out that it is time to consider the sabbatical leave as a means of obtaining for workers the privilege of travel, further education, and extended recreation. Since the world of education recognizes the validity of the paid sabbatical to broaden the cultural horizons of its members, there is no reason that higher productivity should not bring this blessing to the community at large.

The shorter workweek—through either fewer workdays in each week or fewer hours in each workday—has been seen by some labor observers as the next step forward in the march toward leisure. There is no unanimous agreement on this point, however, and the view of many is that increased time off will take different forms in different industries.

Dr. Clark Kerr, president of the University of California, has forecast that a four-day work week and a month's paid vacation aren't too far off for

the average factory worker. Dr. Kerr may be somewhat on the optimistic side, but the probability is that he is right in at least one thing—greater leisure will probably include both the shorter workweek and longer vacations.

In Dr. Kerr's view, mounting population, increased productivity, and the stress on suburban living make increased leisure virtually inevitable. He has urged the adoption of the four-day week as the next step ahead because he feels that it is more practical than a reduction in the daily work-hours for most city workers. He is of the view also that the four-day week—at least every other week at the start—is more efficient for production as well as more valuable to the average worker.

The old bugaboo that increased leisure is bad for working people continues to be raised, despite the implications of today's industrial revolution. The view of the more vocal opponents is generally unsophisticated and argues that longer vacations, shorter hours, and even mandatory retirement will lead the nation to destruction.

These arguments are usually raised by employers having an immediate economic interest in present arrangements. Their basic position has remained unchanged since the start of time. Man, they argue was made for work and idle hands are the devil's surest friends.

"We feel strongly that the four-day week is something to be avoided as long as possible—not only for the immediate undermining effect on our economy, but also for the ultimate demoralizing effects on our individual and national character and strength.

"Over extended leisure, we firmly believe, dulls the 'cutting edge' of a man's talents, intelligence, and pride of accomplishment. Or to put it more simply—too much leisure makes Jack a dull boy."

There Ought to be a Law

Dear Senator:

I see where some people in business and labor and also the farmers are complaining about cheap foreign goods coming into the United States and underselling what we produce over here, sometimes by as much as fifty per cent. This doesn't seem fair to American workers who have to get higher wages than the foreigners because things cost so much more over here. Besides, I think the foreigners ought to keep their stuff at home and use it, because they don't have enough of anything over there as it is. And it don't do them any good to send their stuff here, because they can't afford to buy any of our high-priced goods in exchange. So I don't see where they are any better off trading with us, in fact I think they would be worse off. It seems to me we would be better off, too, if we didn't do any trading with the foreigners; it just takes profits away from our farmers and businessmen and jobs away from our workers.

So, Senator, if you will just pass a law which will prohibit any foreign goods coming into this country, I think it will solve this situation. And I think it will also help the foreigners in the long run; besides it will discourage them from using slave labor. We want to be friendly with the foreigners, but I think the best way to be friendly with them is not to do business with them. That is all I have to suggest today.

Sincerely yours,
BEETAL BRAYNE

P.S. You might be interested in knowing what my wife and I are doing to beat the inflation and high cost of living. Instead of getting a new Ford this year, I got a Volkswagen; it was cheaper to buy and it is a whole lot cheaper to run. My wife got some bed linen and table ware at a store which specializes in Japanese goods for only half what she would pay at our regular store. I got some tools for my workshop, made in Germany, which are every bit as good as more expensive tools made in U.S.A. My brother and his family went to Spain for their spring vacation this year, because he says it is cheaper to go over there than to Florida.

These words of Willard Rockwell, Jr., president of Rockwell Mfg. sum up the unsophisticated employer argument. The argument has it that more time off must lead to mass drunkenness and moral decay. A more sophisticated opposition contends that greater leisure will create a cultural crisis—that most people lack the intelligence to cope with greater leisure. This outlook does not necessarily proclaim that routine work is a virtue. It simply looks upon routine work for the great majority as the lesser evil.

Greater Problems

No doubt greater leisure will pose problems. More cars going nowhere on already overcrowded highways are enough to make anybody shudder. And TV watching is a poor substitute for boredom unless the quality of TV is improved.

But the truth seems to contradict the Mr. Rockwells of our age and the more sophisticated who would limit leisure to the privileged few.

Mr. Rockwell's arguments hardly require an answer. There is small blessing in dull routine work—whether manual or "white collar." Most people run from such work as from the plague. It fatigues the body, dulls the mind, and leads to cultural stagnation rather than to challenge and progress. Those who have added new dimensions to living have first been freed from repetitive labor which, even in America, is the lot of the great majority.

With the new technology, more and more work has become routine. Automation gives no promise of relieving the monotony for most workers, since it will, at best, substitute push-buttons for levers. If anything, the mind appears to revolt more against the loneliness of the automated factory than the repetitive effort of the conventional factory. On this basis, alone, there is strong argument for greater leisure.

A look at the crowded camping sites in the national parks, the popular art galleries, the do-it-yourself living of the suburbs, the extent of travel, the rise of symphony orchestras and the sale of hi-fi, the interest in better homes, the huge enrollments in our high schools of the higher education, hardly spells a cultural vacuum.

While these activities may not spell high culture, they are not to be sneered at and they certainly contribute more toward a fruitful and satisfying life than today's clerical and factory work.

Culturally and economically, America is far ahead of where it was 35 years ago when the 48-hour week was the rule and when time off meant loss of income. Greater leisure has meant a better life for most Americans and there is no reason to fear more of it.

'Educating' for Leisure

While time off has brought a greater appreciation of the arts and education to many, there is no denying the need to prepare for the coming leisure. Encouragement of wide-scale adult education is certainly in order. Educators must become fearless enough to propound the view that successful living and the big bankroll aren't necessarily synonymous. Less emphasis on 'how to' and more emphasis on 'why' certainly is in order.

Mostly, there is a need to understand that the American people are capable of successful adjustment to more time off in their own good time. They have done quite well so far and there is no reason to believe that failure lies ahead.

The new leisure will not be upon us overnight, but it will come inevitably because the sole alternative is a growing army of permanently unemployed. The nation clearly will not settle for the latter.

Robot Cultivator

Birmingham, Mich., Sept. 2 — Automation reached the corn farmer's most tedious and time consuming job today, with the announcement from the Ford Motor Company that a "robot cultivator" will soon be available.

The simple electro-mechanical attachment for cultivating equipment produced by the company's Tractor and Implement Division was demonstrated to distributors and leaders attending a new product preview at the Farm Machinery Research and Engineering Center here.

Ford electronic and agricultural engineers studied the cultivating operations to find a way to speed them and make them semi-automatic. Their answer is a pivoted "feeler," roughly hairpin shaped, which touches the small corn, cotton or other row crop plants, and acts like an insect's antenna in locating the plant.

Anyone for a Plane?

Avid readers of the local presses throughout the North American Continent the past few years have more or less kept tabs on the vicissitudes of the Brothers Finn, and their 'in again—out again' tussle with courts, sheriffs, and assorted machinery of law enforcement in their endeavors to secure title and operating rights to an alleged 'surplus' airplane.

But now, according to the leaflet 'Planes,' official publication of the Aircraft Industries Association of America, (and we quote): 'Turbine-powered transports now entering airline service in increasing numbers are leaving in their wake on of the knottiest problems ever faced by the U. S. air transport and manufacturing industries: disposal of "surplus" piston-engine airliners.'

Those communities supported 'in totto' by the airframe industry, might well raise an eyebrow or two over the apparent dilemma faced by the manufacturers and their 'suppliers' in seeking out markets for these obsolete carriers, particularly in view of the shortening of the work-week due, in part, to the cutbacks in orders.

Even in this so-called 'Atomic Age,' not everyone has a use for an 'obsolete' piston-type transport, although the article continues: 'There appears to be general agreement among the various government agencies that the first step in the (disposal) program should be a major of U. S. policy on used transports . . . the use of U.S.-*used* equipment will eventually create an expanded market for *new* U. S. transports.'

Of course, the disposal plans envision foreign purchasers, as little doubt exists in the minds of the agencies handling this 'hot potato' that a market exists (or could be created) for the absorption of such airframes. And, of course, the heart of the problem (for the agencies, that is) is summed up in one word: 'financing.'

However, this little detail should entail no drastic difficulty for our 'super-duper finan-seers,' as witness the statement: 'The Export-Import Bank has been a major participant in the financing of the sale of numerous *new* transport aircraft abroad, and appears willing to consider enlarging its lending program to include similar *used* aircraft.'

That this is going to be a tough nut to crack is borne out by reading further: 'However, the Export-Import Bank loans *dollars* and generally must be repaid in dollars, *and there is a dollar shortage in most of the less-developed countries which make up a substantial part of the anticipated foreign market.*' (Italics ours).

In all probability, there will be a campaign to foist on the public the necessity of lending foreign markets the necessary dollars with which to purchase our obsolete equipment. After all, what became of most of our obsolete machinery?

We pass on a suggestion that *might* solve the problem (unless those who remember the 'selling scrap-iron-to-Japan' program in the late '30s object to) and it's very simple: sell the damn things to the Germans, so they can melt 'em down and sell 'em back to us as Volkswagens!

Anyone for a plane?

—W.T.F. (11833-2)

Pertinent Paragraphs

New York, Jan. 5 (AP)—With a rough year behind them, U. S. Companies selling goods abroad look for more of the same in 1959.

Foreign trade, which slumped badly in the first few months of 1958, is on the upbeat again. *But so is foreign competition.*

When you look at the dollar totals, 1958 wasn't so bad. American businessmen sold 17 billion dollars worth of goods in foreign countries, imported 13 billion dollars worth of foreign merchandise.

But they had to fight harder for their foreign markets.

The 17-billion total for commercial exports was down 12 per cent from the high of 1957. Otherwise, 1958 was topped only by the $17,333,333,333 recorded in 1956.

Imports of commercial goods, at 13 billions, were down 6½ per cent from the year before.

The big scramble for export markets in the year ahead will be in the world's underdeveloped areas.

Russia is entering the picture with promises of technical, industrial and financial aid — and with offers of Soviet oil, machinery, and other goods at bargain-basement prices. Britain, Japan, West Germany and the Scandinavian countries, always tough competitors, will be tougher than ever before.

Some of the underdeveloped nations, striving to bridge the gap from ox cart era to jet age in one giant leap, are shaping up as potential competitors.

U. S. exporters are fighting back. They have sharpened their sales tools, improved their product and services, eased their credit terms and slashed their prices. Some companies are trying a more drastic approach instead of making an article at home and shipping it abroad, they're building factories in foreign countries.

This trend gained momentum in 1958 and seems destined to gain even more in 1959. The risks are great.

Some foreign manufacturers gave U. S. business a run for its money right here at home. The foreign car widened its share of the U. S. market — 300,000 autos of foreign make were sold here in 1958. In the coming year the total may approach 500,000.

'Know Ye the Truth'

London, Jan. 22 (AP)—Successful flights of earth satellites and rockets cast doubt on the existence of God and refute religious dogma, a Russian scientist said today.

Rockets and satellites have encountered no angels, nor discovered a supreme being, said E. T. Fadeyev, head of the scientific section of the journal, Science and Life, in a talk broadcast by Radio Moscow.

(*We wonder what part of the scripture the ecclesiastics will quote to get out of this one.*)

Highly Inconvenient!

Bonn—West Germany, whose startling postwar boom dramatized the economic recovery of all Europe, today typifies another Europe-wide trend: A sharp slowdown in economic gains at a highly inconvenient time.

West Germany's economic slowdown—and that of its neighbors—comes just as Western Europe plunges into limited currency convertibility and a round of Common Market tariff cutting and import quota boosting. These moves are bound to cause new economic strains.

Also like West Germany, most Western European nations find their economic gains are slowing down. Unemployment in Britain last month (November) rose to 536,000 or 2.4 per cent of the total employed, the highest percentage of the 1950's. And it is certain to climb more by spring. France's unemployed has been steadily increasing since last year. Even Italy, whose economy has been among the strongest, reports a rise in unemployment.

Cold War

Los Angeles Times, April 12 — On May 11th, just one month from today, the foreign ministers conference will open in Geneva, to lay the ground for a Big Four meeting at the summit in the autumn. . . .

. . . To begin with, there is not a single country in Europe that is not fully fed up with the cold war and everything that goes with it. Even in the country more interested than any other in ending this type of war — and that is Germany — the old determination to hold out to the bitter end no longer seems to be there. Adenauer's resignation as chancellor is the latest evidence of this feeling.

Breadwinners Out

It is estimated that there are at least 46 cities in the United States where there are at least one in eight breadwinners out of work. In some 69 other cities less than 6 percent of the working population is unemployed. But any adverse economic condition could add many of the latter areas among the growing distressed areas in the country.

U. S. factories employed 1,537,000 fewer men and women in July last year than a year before, the U. S. Departments of Labor and Commerce have reported. This past July there were 15,165,000 men and women working in manufacturing industries, where a year ago there were 16,702,000.

THIS ISSUE'S COVER

With its Link-Belt shuttle belt conveyors, this new dock on Lake Superior approaches the ultimate in vessel loading and efficiency. Tacanite pellets can be simultaneously weighed and loaded into two of the largest iron ore carriers with a precisely controlled flow. Each conveyor loads and trims at 750 or 1,500 gtph. All feeding, conveying, advancing, retreating for one ship are PUSH-BUTTON controlled by one man—even when loading blind in adverse weather.

CHANGE OF ADDRESS

Please send your new address at least 30 days before the date of the issue with which it is to take effect. Enclose the old address with the new address. The same applies to expirations. Second correspondence to:

The TECHNOCRAT
8113 South Vermont Avenue
Los Angeles 44, California

The TECHNOCRAT STAFF

Leland Proctor.....Editor
Richard Burnett.....Assistant Editor
Kenneth Wolford.....Research Editor
Maysie Foster.....Circulation Manager
Marjorie T. Clouse.....Business Manager

'Reddy Kilowatt' Goes Electronic

San Francisco—Pacific Gas and Electric Co. customers will soon be billed by a giant electronic computer that will spew out bills *at a rate of* 100,000 *a day*. President Norman R. Sutherland announced that after installation and testing, the 18-ton IBM 705 will begin taking over the utilities billing next spring.

By early 1960 billing from all 13 of the company's divisions will be handled by the data processing machine, he said. After the gradual changeover, *the computer will prepare nearly 2 million customer's bills a month and will handle all related records*, he added.

Giveaway Continues

Feb. 1959 — Eisenhower and his left-wing advisers continue to tell us that it is absolutely essential to keep on giving away U. S. dollars overseas. They do not bother to explain in detail what this money is actually being used for. The terms "mutual security," international economic assistance", and other vague generalizations are used to justify the squanderings of American money. Some of the purposes to which U. S. "foreign aid" dollars have been put are listed below:

(1) Subsidizing symphony orchestras in Israel; (2) an $18,000,000 half built highway in Thailand (original total estimate $6,500,000) for use by less than 9,000 automobiles; (3) The planting of wild grass shoots along public highways in Lebanon; (4) over $1,000,000 to bolster the Pakistani fishing industry; (5) expensive airfields in Afghanistan where most travel is still done by camel; (6) to pay for an extensive survey of the sexual habits of Nehru's Indians; (7) dress suits for Grecian undertakers; (8) to send weightlifters to the Near East and high-priced Negro jazz bands to Latin America and to the Far East; (9) knitting schools; (10) modern art exhibits; (11) an elaborate survey of flower reproduction

The list of absurdities for which the American taxpayer is sacrificing his hard earned dollars is almost endless.

(Foreign Aid is absolutely essential to keep our allies firmly cemented to the West, to relieve the distress of the underprivileged, to raise the standard of living of the under-developed countries, we are told.)

TECHNOCRACY

North America's Only Social Dynamic

WHAT?

Technocracy is the only North American social movement with a North American program which has become widespread on this Continent. It has no affiliation with any other organization, group or association either in America or elsewhere. The basic unit of Technocracy is the chartered Section consisting of a minimum of 50 members and running up to several hundred. It is not a commercial organization or a political party; it has no financial subsidy or endowments and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsidence allowances. The annual dues are $9.00 which are paid by the member to his local Section. Members wear the chromium and vermillion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHEN?

Technocracy originated in the winter of 1918-19 when Howard Scott formed a group of scientists, engineers, and economists that became known in 1920 as the Technical Alliance — a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934 Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundation of the present Continent-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHERE?

There are units and members of Technocracy in almost every State and in every province in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces. Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the location of the nearest Technocracy unit.

WHO?

Technocracy was built in America by Americans. It is composed of American citizens of all walks of life. Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this Continent. Membership is open only to American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective office or active office in any political party.) Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher, or housewife—so long as you are a patriotic American—you are welcome in Technocracy.

The TECHNOCRAT

Offering to the American public a medium by which it can learn the facts regarding the transition period in which we are moving toward a New America of technological abundance.

PAMPHLETS

Introduction to Technocracy	25c	Continentalism—The Mandate of Survival	15c
Make Way for Social Change	15c	The Culture of Abundance	15c
Man Hours and Distribution	15c	'There'll Always be an England'	10c
The Energy Certificate	15c	'Our Country Right or Wrong'	15c
Science vs. Chaos	10c	America Must Show the Way	15c
		'The Sellout of the Ages'	10c

June, 1959 Whole No. 190

The TECHNOCRAT is published quarterly (Mar., June, Sept., Dec.) by a Managing Board at 8113 So. Vermont Ave., Los Angeles 44, Calif. Entered as second-class matter April 12, 1938, at the post office at Los Angeles, California, under the Act of March 3, 1879. The TECHNOCRAT is an authorized publication of Technocracy Inc., Howard Scott, Director-in-Chief, Rushland, Pennsylvania. Subscription rates: 25c a copy or 4 issues $1.00, payable in advance. Send all correspondence to (and make all checks and money orders payable to) The TECHNOCRAT, 8113 So. Vermont Avenue, Los Angeles 44, California.

Telephone PLeasant 1-0828

Not responsible for unsolicited manuscripts unless accompanied by return postage.

Entire contents copyrighted 1959 by the TECHNOCRAT.

SUBSCRIPTION ORDER

To: THE TECHNOCRAT
8113 So. Vermont Ave.
Los Angeles 44, Calif.

Enclosed herewith in $ to cover subscription(s) to Technocracy Magazines for years.

(All three publications are quarterlies, but so rotated that one appears each month.)

ALL THREE MAGAZINES—
☐ 12 issues (1 year), $3.00

THE TECHNOCRAT—

TECHNOCRACY DIGEST—

NORTHWEST TECHNOCRAT—

☐ This is a new Subscription.

☐ This is a renewal Subscription.

START WITH ISSUE

Send to:

(Foreign rates, other than Canada, Mexico, and U. S. Territories 20% additional to above rates. Canadian orders payable in U. S. funds.)

Solution in Order

The domestic problem here at home in the United States and Canada is one of how to distribute the ever-mounting abundance pouring out of our national production. Sufficient purchasing power cannot be created nationally by the total volume of salaries and wages to ensure the volume distribution of this abundance to the respective populations of these two great producing entities of North America. Washington and Ottawa, Wall Street and James Street are plagued with this dilemma. We are rushing headlong into more and more critical stages on the national scene. A national or Continental solution to the social problems of this Continent is in order. There comes the trouble. No solution to the social problems of United States and Canada is possible short of a fundamental redesign and reconstruction of our entire economic and political structures. Rather than face the social change implicit in such fundamental redesign, the business interests and political parties of United States and Canada in their psychotic fear of our social realism at home are conspiring to involve both countries in a world-wide crusade to stop social change and make the world safe for American business.

—Howard Scott

— SECTION STAMP —

TECHNOCRACY
PROVIDES THE DESIGN
FOR THE
DISTRIBUTION OF ABUNDANCE
TO
ALL NORTH AMERICANS

Ph. GA 4-8352

GROUP A. R.D. 11353
TECHNOCRACY, INC.
BOX 653 EDMONTON

SEPT. '59

The TECHNOCRAT

PUBLICATION OF TECHNOCRACY INC. • LOS ANGELES • CALIFORNIA

Sept 59

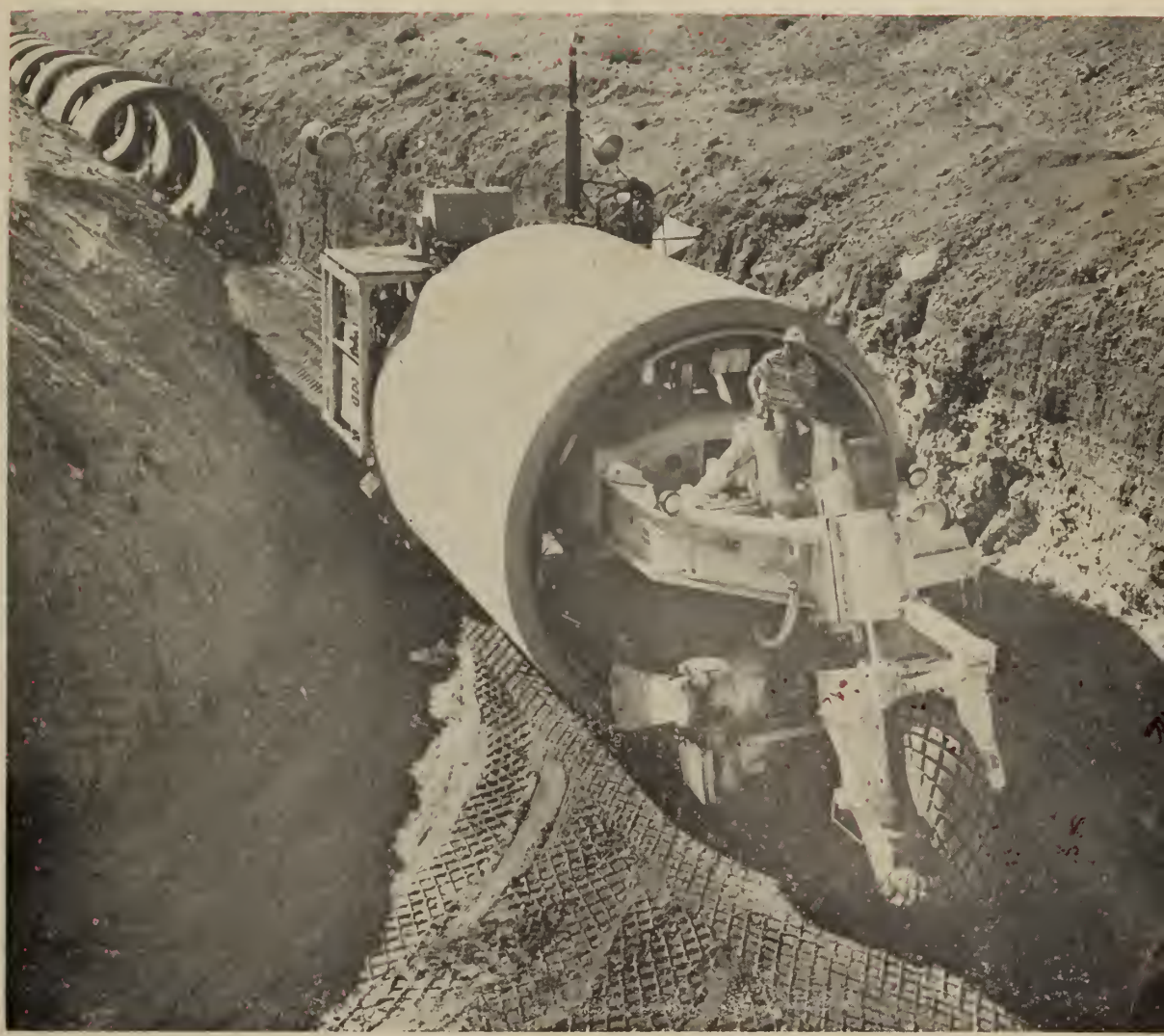
IN THIS ISSUE:

- Myth of Equality
- Technocrats on the Air
- The End of Automobile
- Technology in the News
- Why Debt and Taxes
- Research Bulletin
- There Ought to Be a Law
- Red China Bids for a Place in Metal Working Sun
- New Order of the Ages

NEWS MAGAZINE

Whole No. 191

25 CENTS



The TECHNOCRAT

SEPTEMBER, 1959

Editorial

Conservation

In an economy such as ours which is based on waste, conservation is an anomoly. The American version of the Free Enterprise System which has glorified the exploitation of our natural resources giving the highest rewards to those who successfully looted the most, now finds itself in a precarious situation.

On the one hand it must have a vast consumption of goods to keep its factories, farms and mines operating at a profitable level and on the other hand it faces the unpleasant fact that these natural resources have a definite limit.

The United States is now a 'have not' nation in many important minerals and raw materials. We find it increasingly necessary to import a number of vital raw materials and minerals from abroad. That is because America has none or that it is too expensive feasibly to extract what is left.

Water is one of our key resources. We use in excess of 200 billion gallons per day and this consumption is expected to more than double in the next 25 years. But with over 1000 localities in the United States having some form of restriction on its use now, the outlook for the future is dark. Sixty percent of the nation's land area is in the seventeen western states but its water yield represents only one-fourth of America's water supply.

We do not efficiently use what we have. Some 675 million acre feet runs to waste in the ocean every year, while drought and depletion of underground water tables are causing serious regional water shortages.

Pollution of the available water supply caused by human and industrial wastes and by siltration from upstream erosion due to destruction of the water shed and uninhibited cultivation of land is creating problems which cannot be solved at the local level but calls for a Continental approach.

These problems have provided the local and state politicians with a 'football' to kick around but which if not solved will lead to local or national disaster.

California presents a prime example. The influx of thousands of people to this area calls for additional water supply—fast. So far the politicians have been fighting over the possible division of the profits. Others are fighting over the division of the non-existent expected water supply. None of them have been thinking of the welfare of the state itself.

Attempting to solve the water supply situation on a local level can only lead to frustration and disaster.

An examination of Technocracy's Continental Hydrology design will acquaint you with the scope of the problem. It will also convince you that as long as the Price System remains with us, just so long will the problems remain. It is too vast for Price System concepts. We, the people, have the materials, the skilled personnel, the machinery and the blue-prints for the solution of this problem and other facing us. Why not get going?

The TECHNOCRAT is published quarterly by a Managing Board at 8113 S. Vermont Ave., Los Angeles 44, Calif. Entered as 2nd class matter April 12, 1938, at the post office at Los Angeles, Calif., under the act of March 3, 1879. Subscription rates: 4 issues $1.00; 12 issues $3.00.

GROUP A. R.D. 11353
TECHNOCRACY, INC.
BOX 653 EDMONTON

Ph. GA 4-8352

The Myth of Equality

The concept of human equality is coming into practicable being from a strange new direction — from the direction that most other significant changes have come — through technology.

From ancient times, a few philosophers have dreamed of human equality and a few opportunist politicians have preached it. But social equality has ever eluded the societies of mankind, and the chances are in favor of its never being achieved in human relations; it can be only approximated in practical living. All ancient civilizations were built on slavery; hence, no practical concept of equality existed. No ancient religion supported the doctrine of equality, either in life upon the earth or among the spooks in the Hereafter.

The advent of the democratic ideal brought with it the doctrine of equality; and the radical politicians of that day gave it lip service. The slogan of the French Revolution was 'Liberty, Fraternity, Equality.' The Declaration of Independence carried the phrase 'all men are created equal' (which Thomas Jefferson must have accepted with tongue in cheek, since he was a wealthy landlord and slave owner). The Bolshevik revolutionary party in Russia tried to stress the concept of human equality and, in doing so, it over-played the role of environment in the production of human differences, which aroused criticism among scientific circles around the world. Few social philosophies today support the idea of human equality. The American pledge of allegiance to the flag evades it, approaching it only with the dubious statement of 'liberty and justice for all.' Even so, it appears that this was too much of a commitment for the Eisenhower administration to underwrite, so the Pledge was changed so as to pass the responsibility for America's destiny on to God.

Biologically, human beings are very unequal; that is, very different. And this difference applies to every characteristic, from general intelligence, to coarseness of hair, to size and strength of body, to color of skin and eyes, to emotional expression. No biologist would attempt to equate human beings. Nor would the biologist attempt to evaluate them relatively except on the basis of specific objective features, such as reaction time, general intelligence, mechanical ability, resistance to certain diseases, sensitivity to pain, etc. He would not attempt to evaluate them socially except in terms of some specific social trait.

To the biologist, all human beings now living on the earth are members of one species, but with a number of subspecific differences, which have become more complex through indiscriminate hybridization. Before the biologist could answer the question of who is superior to whom, he would have to ask 'superior in what way and for what circumstances?' For example, if one were to judge superiority on the basis of one's ability to 'sit it out' for a protracted length of time in a 'fallout' shelter, then, the diminutive, lethargic moron might be given the highest rating.

Certain naive idealists on the philosophical fringe may attempt to think of their fellowmen as equals; but, even these, like George Orwell's 'Animals,' must concede that 'some are more equal than others.' If an ideal is to be sustained, it must not permit of any loopholes. But the ideal of human equality is so full of loopholes and obvious discrepancies that it cannot be supported by anyone.

On a more practical level, certain economic theorists believe that all human beings should be given equal economic opportunities, for instance, equal incomes. But under any kind of a scarcity economy, this is very difficult to achieve. Even

the communist doctrine of 'from each according to his ability, to each according to his need' has never been sustained in practice. The socialists reject it outright. A few small communal or religious orders may have come cloes to the ideal of economic equality for awhile, but these usually disintegrate as soon as they begin to compromise their ideal with human avarice and ambition.

Society rejects equality as a philsophy

Numerous studies of past and present social organizations reveal that the people, themselves, refuse to consider each other as mutual equals. They segregate and differentiate themselves on numerous counts. The most significant differential in all societies is that of monetary wealth or income. Other differentials are race and national background; residence status—whether 'natives' or 'immigrants,' whether residing in the bottomlands or on the hills; associates, mutuality of interest, types of socializing patterns; education and credentials; social concepts, politics, legal status; religion, philosophy. And most societies maintain significant social distinctions based on sex.

In most societies of the past and present, there has existed at least a tacit understanding that women were social inferiors to men. In the fascistic and other tyrannical societies, this distinction was (and is) overt, exaggerated, and often brutal. In the more 'democratic' societies, the distinctions are more covert and less intense on the surface. In the 'battle of the sexes,' the weapons have been economic power, physical strength and aggressiveness, legal and conventional authority, and personal wiles. The male has tended to gain advantage through aggressive dominance and the female through cunning. Even the two most advanced 'democratic' nations on earth—the U.S.A. and the U.S.S.R.—fail to erase the social distinctions between the sexes. The backward tyrannies—mainly the Mohammedan, Roman Catholic, and aboriginal—perpetuate it actively and openly.

The social institutions which have the most control over human actions and motivations fail to propagate the doctrine of equality, even in those areas where virtual equality is both logical and possible. There is no basic reason for inequality of food, clothing, housing, health care, or recreation. Yet, where is the established institution that would advocate equality in those areas? The churches do not support it; political governments certainly do not favor it; economic institutions are dead set against it; the schools would not dare to teach it as a social goal; and the fraternal organizations evade it.

It is in line with the idealism, but not the reality, of American tradition to believe in equal justice for all, equal opportunity, equal privilege, equal education, equal rights. So long as the concept of equality is kept vague and abstract, Americans can believe in it as an ideal. But they will acknowledge, when cross-examined on specifics, that justice, opportunity, privilege, education, rights are not the prerogative of all American citizens, that all of these are influenced by such factors as economic status, race, religion, occupation, personal connections. For example, let an established, well-to-do, white family of Anglo-Saxon descent try to equate itself with a migrant, impoverished Negro family of Alabama descent. Any pretense at equality fades fast away.

One tends to think of his own incidental circumstances as being the superior ones and tends to think of contrasting circumstances as being relatively inferior. The automobile mechanic feels that he is somehow superior to the banker, and vice versa. The Afrikander feels that he is superior to the Bantu, and vice versa. The male likes to feel that he is superior to the female, and vice versa. With such an interplay of individual egos and group chauvinism, it is the height of futility to preach equality as a practical program of social relations.

There is a general struggle among individuals to get ahead in the social order and to keep others down—so as to maintain a greater relative differential. This struggle brings out the most vicious traits in the human character; many pursue it with utter ruthlessness and sadism. The 'gentle people' are more likely to be stepped on and abused than to be respected. Gentleness can be practiced with immunity at the present time only after one has established his *position* through successful acquisitiveness or unyielding toughness.

Thus it becomes apparent that human equality is a myth. It cannot be supported biologically or psychologically. It is not accepted by people in general or even in large measure; it is openly disavowed by many. Only a few philosophers play with the concept as an ideal.

Still, there is something fascinating about the idea of equality that does not permit it to die out. Many people—in America and Russia, for example—like to believe that equality is not only possible but that it is imminent.

But if any semblance of equality is to be attained among human beings in human society, it must be approached from an entirely different direction than that of philosophical persuasion. Even legal coercion has not proven successful.

Equality cannot be legislated

Attempts to legislate equality, even in such limited aspects as integration of education or non-discrimination of employment, run into social conflict and wholesale evasion. Business establishments and service institutions may be legally restrained against selecting employees on the basis of any characteristic other than qualification for the job and seniority of application; but, somehow, Roman Catholic institutions tend to hire Roman Catholic employees; anti-semitic employers tend to hire non-Jews; on the railroads, sleeping car porters, dining car waiters, and redcaps are almost always negroid.

Legislation might serve to facilitate the introduction of concepts that have already 'arrived,' such as the one-piece bathing suit (since reduced even further) or Sunday opening of stores and other public establishments. But it cannot introduce the concepts themselves.

Technology gives direction

The concept of human equality is coming into practicable being from a strange new direction—from the direction that most other significant changes have come—through technology.

By the indirection of technological change, a semblance of social equality is starting to be achieved. The past symbols of social stratification are being erased. On the whole, the common man of today can enjoy physical comforts and conveniences which even kings in the 'old days' could not consider. But this is not because mankind has become any more humane by nature or been converted to the democratic ideal. It is simply because science and technology have made possible the production of consumer goods on a quantity scale so vast and so easy that the sadists of Authoritationism have not been able to suppress it effectively. Even so, the tyranny of the Price System is such that numerous hardship cases still persist.

The common man can enjoy almost as much in the way of physical comforts and conveniences as the man of wealth, provided he can be satisfied with functional values and can ignore prestige values. Even the poor man can own a car that will take him where he wants to go and return—often with less grief than the owner of a swank new Monster from Detroit, and at a fraction of the cost. The common man can own a 'modern' house with all the essential comforts and conveniences of living—but it may be an 'old' house in a relatively low-tax area, hence be lacking in neighborhood prestige. He can wear clothes that are every bit as serviceable and comfortable as those we see pictured on millionaires in the slick magazine writeups—but with less fluff and less class, meaning much less cost. He can eat healthful food, substantial in quality and quantity; although he may have to by-pass some higher-priced items and, when eating out, be content with less elegant 'atmosphere' and table decor. The common man can enjoy essentially the same kind of recreation as the Big Shot, but at different locations and with more modest (costwise) facilities. He also may have to pass up, in the health field, some of the more expensive prestige operations and medical treatments. Thus, the symbols of inequality are becoming more artificial and frothy—more 'in the head' than in the kind of services rendered.

It is evident that any approach to the ideal of human equality must be made through scientific 'materialism' rather than through spiritual idealism. Technology cannot eliminate those differences that make human beings basically different—unequal—but it can go a long way toward mollifying those differences. In doing so, technology can create an environment which is immeasurably more kind and gentle to the individuals than any which existed in the past.

Toward functional control

Technology, likewise, is forcing into being a very different form of social control than any which has existed for an area in the past—functional control. This is the method of organizing social operations on the basis of functional efficiency and effect, as contrasted with the authoritarian basis of economic manipulation and pay-off.

The only present advocate of functional control is Technocracy Inc. We know of no other organi-

zation, here or abroad, that has concepts for social change so broad and sweeping as those of Technocracy. This Organization has long been in the forefront of those preparing for a social order of functional control.

Technocracy does not propose to make all Continental Citizens equal in all respects; for, that is beyond the realm of practicality. But Technocracy would eliminate most of the social factors that enhance inequality.

In a Technocracy, the incomes of all adults would be equal in amount, hence their consuming privileges would be equitable, being differentiated only by the special requirements and preferences of the individuals. The income would be the same regardless of the kind of function performed or the quality of the performance, same for male and female. Hence, income would not be a symbol of social status.

There would be no social inequality based upon kinds of automobiles standing in the driveway. The same would be true of the dwellings, furnishings, and other consumer items. Nor will there be residential distinctions such as those that exist today between the dwellers of the valley bottoms or waterfronts and those who live on the 'Hills.' All housing will be of the same high quality, varying only to suit the requirements and tastes of the residents. There will be no opportunity for one to pose as a Big Shot among his fellowmen through acquisition or possession.

There will remain inequalities in a Technate, however, for there are some things that cannot be 'leveled' out by equal incomes and equal social opportunities. There will continue to be differences in the physical attractiveness of individuals, for example; although, in an affluent economy, much of the less attractive traits can be remedied or obscured by artificial means.

There will remain differences in kinds of intellectual interests and degrees of interest, as well as differences in talent. These differences will tend to segregate the people into interest groups. Within such groups, there will be status ratings depending on the relative merits of the persons in the group. No doubt, certain aggressive and ambitious types will attempt to do some 'climbing,' but since it will be among people who are best qualified to judge them, the phonies will achieve little success.

Since most people, particularly the more intelligent ones, will have a number of interests, they will find themselves 'at home' among various groups.

Social rating based on sex will disappear, such as present differences in economic status, employment opportunities, and functional positions. To be a female in the Technate will not constitute a position of inferiority or subordination. Within the interest-groups, it is most probable that women will compete with men on the same merit basis.

People are still people

Although we must acknowledge that people are fundamentally unequal in many ways, we must also concede that a society which is capable of achieving a plentiful output of goods and services can do much to relieve the unpleasant effects of that inequality. Not all people have equivalent physical and intellectual capacities, abilities, and talents. But the great majority of them can fit into a pattern of social living that is satisfying to them and not harmful to their fellowmen; and most of them can perform some useful function. Only a few, those who are intellectually incompetent or severely handicapped physically, or who are dangerously anti-social, would require institutional care. These and others who are unable to make positive contributions to the society would have to be carried as dependents. The latter probably would include some who, because of mental, emotional, or physical conditions, could be carried as dependents at less social cost than it would take to adapt them to social usefulness.

Since no beneficial purpose would be served by the establishment of social strata or classes, expressed in terms of consuming privileges, all citizens and guests of the North American Technate would be treated as economic equals. Even if the economic policy were determined only on the criterion of functional simplicity, this would still be so; for, it would be more efficient to provide equal incomes to all than to attempt a system of differential incomes. Sociologically, equal incomes will remove many problems that now exist in the field of social relations.

Some of the present problems that would vanish under a program of high, non-transferable income for all would be: Poverty, charity, philanthropy; gambling, crimes of an economic nature, prostitution; social climbing—'keeping up with the Joneses'—getting ahead; business enterprise,

chiseling, political corruption. Capitalizing on calamity—sickness, accidents, disaster, bereavement—would cease to be possible. One will not be able to enhance his own economic status at the expense of another.

In the Technate, human nature and basic human differences will be much the same as they are today, but the environmental factors which influence their development and expression will be quite different. Men and women will be no less human, but they will be under compulsion to be more humane. This will come about, not from moral conversion, nor intellectual persuasion, but, through the indirection of the creation of a stable, equitable environment for all.

While the philosophical ideal of human equality—the belief that all persons begin life with the same potential—shall remain a myth, Technocracy will so equalize the extraneous factors that the inequalities shall become merely incidentals in the lives of the people. With Technocracy, a human goal that could be no more than a dream for thousands of years, will be made into a reality. There will be neither slaves nor masters, poor nor rich, despised nor exhalted; for, all will be known simply as Citizens of the Technate.

—Wilton Ivie

Technocrats on the Air

The whole Pacific Coast got an unexpected look at Technocracy's program on June 8th when Harry Briggs, Authorized Speaker from Everett, Washington, was interviewed by Ben Hunter on the "Owl Program" on Radio Station KFI.

We here in Los Angeles did not attach any particular significance to it as the interview was to be after midnight and as it was set up on such short notice that we could not alert many of our own members.

Mr. Hunter played it straight and asked the same questions as any politically indoctrinated Price System citizen. Mr. Briggs answered in a calm conversational tone and the interview ended amicably. The only point at which Mr. Hunter bogged down was on the question of when and how the Technate would be established, never once realizing that the answer depends on himself and millions of others to decide that.

By the time that Briggs and his escort got back to SHQ where the interview was being monitored on tape, the radio audience had begun to participate. There were many of the usual 'crack pots' and ill-informed but the overwhelming number were favorable.

However, about 3 o'clock in the morning a man came on who wished to remain anonymous to the radio audience but gave his name to Mr. Hunter, who dubbed him George. George gave as his reason for being anonymous, that he had been a Technocrat but resigned twelve years ago due to Price System necessity and that now he held a fairly high public office.

George commented on much of the misinformation exhibited by previous callers and then proceeded in the next twenty minutes to give one of the finest expositions on Technocracy's program that it has been our privilege to hear for many years. He covered all the objections which had been voiced and brought out and elaborated on points that Mr. Briggs had not had time to cover.

Shortly after George signed off a man from Loyola called the Loyola Professor of Economics and had him call in to give a refutation. They objected because George was anonymous but Mr. Hunter said he was not unknown to him and of course respected the request to keep his name off the air.

Another amusing thing was that the "Owls" have a Dr. Vaughn in San Diego whom they call as an oracle whenever there is a chance that the questions get too involved. Mr. Hunter expressed the wish that Dr. Vaughn call in and really put Technocracy in its place. He was sure Dr. Vaughn would really tear it apart. Soon after Dr. Vaughn did call in and to the discomforture of Mr. Hunter, reaffirmed many of the facts and findings of both Mr. Briggs and George.

(Continued on Page 26)

The End of the Automobile

He didn't have to sound his siren; I saw his red light in the mirror. I knew I was clean and pulled over with a serene conscience and, sure enough the highway patrolman was curious about the Italian sports car I was driving. In the course of chatting about the Bertone-bodied Bolide I mentioned that it was a fine kind of vehicle to own if you live in the country and a pain in the neck if you live in the city. "In fact," I went on, dropping a pet theory on this guardian of the highways, "I pretty much doubt that the automobile, as an answer to personal transportation, is long for this world."

The patrolman agreed with an instantaneous, "Right!" But his answer took me by surprise. "Put everybody on motorsickels," he said. "You'll automatically get rid of these old fogeys that cause so many crack-ups. Parking problems and traffic congestion will be cured overnight. And damned few people will go out in bad weather, when so many accidents happen."

This was the logical extension of George Romney's point that if all motor vehicles in the U. S. were as short as the Rambler American, a jillion miles of lebensraum would be gained for motorists on the nation's vehicular pavements. But, I'd like to add, only for the moment.

Just for the moment. Even though we spend good money on insurance against some future eventualities, most of us think and live in the immediate present. The web of history is being woven before our eyes during the present but we are not at all inclined to see events in the continuity that will determine the character of the real world a few years from now. Everyone says, "The traffic gets worse all the time." But few people look into the future analytically enough to be able to say, "The continually worsening traffic situation is leading directly to an impasse." Personal transportation by means of the automobile, still one of man's great freedoms to some extent, rapidly is becoming more and more a form of bondage. The car enables us to find employment and the means of economic survival far from home when it cannot be found nearby. But in the great metropolitan areas the price of mobility has become staggering. Getting from home to work and back is often as harrowing and anti-life as foxhole warfare. "The freedom of the open road—once a concept as ideally romantic as the freedom of the skies or of space—means increasingly less as the months and years go by. In its place is the challenge, "Will I make it home tonight? Will that guy with his engine jammed into the driver's seat be me? Is the automobile the answer?"

Of course it's hard to extrapolate the exotic future from the commonplace events of today. Those who had this skill in olden times were recognized as prophets, usually after their death, and not by their own people. Today we have some individuals who can forecast the future with a very useful degree of accuracy by means of scientific techniques. What they say the relatively immediate future holds for us and our offspring is awesome.

One of the best-qualified and most deeply probing of these forecasters is Dr. Harrison Brown of the California Institute of Technology. His great book, "The Challenge of Man's Future," is indispensable reading for anyone who wants to live realistically today in terms of what is likely to take place tomorrow. Equally important is "The Next Hundred Years," written by geochemist Brown, bio-chemist James Bonner and psychologist John Weir, all of Cal Tech. This book is the result of a series of conferences with the chief executives of thirty of the nation's largest industrial corporations, aimed at exploring the future of the earth's natural resources in relation to technological civilization, of which the automobile is at present an essential part. This article draws heavily on these two books.

All of us who have experienced city traffic in recent years know that it is going from bad to worse everywhere. This is true not just in the United States. London, Honolulu, Rio, Milan, Paris, Berlin — all cities of great and increasing size are almost equally bad off. Attempts at easing near-intolerable congestion through the construc-

tion of freeway systems usually are short-lived benefit at best. But this is only the beginning.

Though few of us are aware of the fact, we are eye-witnesses to one of the most phenomenal events in all human history: the saturation of our planet by humanity. Between the invention of agriculture in our dim past and the recent Industrial Revolution the planet's population remained fairly constant, regulated by relatively uniform food supplies, birth and death rates. But since the Industrial Revolution and because of the vastly greater food supplies and lower death rates made possible by technology, we have the world population growth evident today. It was relatively stable until about 1850. About 1900 it really began to climb and now is approaching the vertical.

The population of the United States today is about 172 million. By 1965 it will reach 190 million; by 1970, 200 million; by 1975, 225 million; by 2000, over 300 million. These are reasonable forecasts. If urban traffic is extremely bad today, what will it be in 40 years, when our population is almost twice what it is now? It is hard to see the automobile, as we know it, as the answer to personal transportation when that time comes.

At the present rate of population growth the limit should be reached within the next hundred years. There are about 2.5 billion people on the earth today. The forecast is for a minimum of five billion by the year 2000 and seven billion by 2050. This last figure may be as high as 12 billion but whatever the number it will represent the greatest number of persons that the most efficient agriculture of the time can sustain.

During the next hundred years populations that are almost entirely agrarian today will have become highly industrialized. India and China are two examples that are particularly significant because of their immense present and potential populations. They are already launched with determination on the road to industrialization.

In the highly industrialized U. S. today we enjoy our standard of living only by consuming ever increasing amounts of natural resources. Today it takes, for example, the use of about nine tons of steel to support each person in the United States. By the year 2000 this should approach 15 tons and a required 100 tons per person is a reasonable expectation for the foreseeable future. In India and China today (1954 estimated population of Republic of India was 377 million; that of Peoples Republic of China, 583 million) a few scant pounds of steel are in use per member of the population. But as these and other nations industrialize as fast as they can, the drain on the earth's natural resources will be difficult to imagine. It has been said that if the three-quarters of the present world population that currently exist on a very low living standard suddenly could achieve the American standard, all known reserves of ores of copper, lead, zinc and tin—to name a few—would be exhausted almost over night.

As the earth's population swells before our eyes, as it becomes increasingly industrialized and therefore consumes more natural resources, these will become harder to get. This is happening right now with most if not all of them. Sixty years ago "commercial" copper ore yielded five percent metal. Today high grade copper ore in any quantity has vanished from the earth and ores as low grade as 0.6 per cent must be mined commercially. This is the pattern that applies to all our natural resources. It follows that the lower the grade of ore, the more energy is required to produce a unit of the end product. This automatically puts an even heavier drain on our energy resources which at this time are chiefly "fossil fuels," meaning coal and petroleum.

That it's far later than most of us think is brought home by the fact that by the year 2000 or sooner the world crude oil production will be over the hill and will begin to decline. In fact, if global industrialization progresses as rapidly as it well may, the world supply of petroleum could be used up in 40 years. But American petroleum reserves will not last as long. Perhaps as early as 1965 or 1970—within seven to twelve years—we will have passed the peak of domestic petroleum production, depending upon our import policies between now and then. We will have to rely on imports and on the production of liquid fuels from shales, tar sands and the hydrogenation of coal. Liquid fuels must become more costly as they become harder to get.

The impact of this crisis on the automobile is bound to be colossal. What will happen to our fuel swilling horsepower giants just a few short years from now? The cost of operating them will become intolerable. What about the lavish use of chromium plate as lower and lower grade chromium ore must be processed and its cost must go higher? What about our economy of waste that is said to make the American way of life possible? Can we afford as individuals, as a nation and as humanity such unnecessarily excessive consumption of increasingly costly resources as annual

model changes and mammoth car dimensions demand? We cannot. As each year passes these and other excesses of production and consumption must become more irrational. They must be curtailed, not out of any rationality on the part of man and his governments, probably, but out of inexorable physical and economic necessity.

Just as it is very difficult for the average, much overfed, overendowed, overconsuming American to have any conception of how the less fortunate people of the world exist (we amount to only six per cent of the world's population but we consume about 50 per cent of the world's goods), it is hard for us to recognize the transition that we are a living, functioning part of . We exist in the midst of an abundant surfeit of food, fuel, materials and goods. But the fact is that we are living in the 'Era of the Jackpot.' We are the last of this planet's big spenders. We will not have to survive long to witness the coming shortages of both necessities and luxuries. Already with us are many of the pressures that will become increasingly more intense as technology spreads, population grows and resources become more dear. Within four generations we almost certainly will have arrived at the point, with few exceptions where our only "ores" will be country rock, sea water and air. These low grade sources of practically all natural resources are relatively unlimited but the cost, in money and energy, of processing them will be extremely high.

Our arrival at the rock-processing technology is likely to be postponed only by a radical decrease in the global birth rate or the sort of radical increase in the death rate that might be brought about by large-scale thermonuclear war. Significant reductions in the birth rate are unlikely, which is more than can be said for a major modern war. In this case, we often are told, our technology and our civilization might not survive at all.

Taking the hopeful view that the people of the earth find it possible peacefully to solve their conflicts—which will become more intense as resources become harder to get and competition for them increases—which lies ahead for the automobile?

If we are to have cars at all, cars, as we know them, must become smaller. This will be forced by:

1. Dwindling petroleum reserves and higher fuel costs.

2. Soaring costs of all the basic automotive structural materials.

3. Worsening road congestion as the human and vehicular populations approach the standing room only stage.

Scaling down cars and their power plants can alleviate the above problems in the U. S. to a degree and for a while. But in western Europe, where small evhicles are used almost exclusively, congestion nevertheless approaches the near-intolerable. Population density in the U. S. one day will equal that of Western Europe today, which also will continue to climb.

Model changes merely for the sake of novelty-inspired sales must be abolished:

1. If we are to live by any philosophy other than after-me-the-deluge.

2. Because, before very long we will be overtaken by the deluge—the high difficulty and cost of obtaining new raw materials.

But making cars, as we know them, more economical in every way have no effect upon the automobile as one of the greatest destructive forces in the history of humanity. We are told that accidents don't happen, that they are caused. Caused by people who are incapable of competent control of vehicles that are entirely subject to their 'control.' According to Travelers Insurance Company figures, in 1956 40,000 people were killed by or in cars and 2,368,000 injured, an all-time high. This carnage also will grow but in this area, at least, government is concerned. Government has made it threateningly clear to the nation's auto industry that the industry has a responsibility to the nation that transcends merely supplying it with wheels. If private enterprise does not discharge that responsibility competently a higher power must assume control. Self-centered anarchy cannot be tolerated indefinitely even when practiced by giant corporations that pay gigantic taxes and wield gigantic power.

There are a few people in Detroit and elsewhere in American industry and government who have the vision to plan beyond the next model change or change of political administration. Ford Motor Company's capable scientist and now vice president in charge of engineering, A. A. Kucher, is one of them. He, too, is concerned with the staggering population that the planet must support within the next hundred years and with the implications that follow.

Kucher has stated that this population may require 28 times the input energy (productive energy) being produced today. The problem that this implies has two impressive aspects: (1) The

production of machines to produce the energy and (2) the production of machines and devices to consume it, to transform it into fulfillment of the needs of this population. We already have an acute shortage of technically trained people. It remains to be seen where those will come from who can build and operate tomorrow's technology.

Kucher is in agreement with the experts already cited concerning the exhaustion of our high grade resources and the coming importance of atomic reactors as a major energy source. Concerning the liquid fuel problem he says, "One can conceive of cars run by electrical power generated by atomic reactors and propagated by micro-wave beams directed toward the car." One had better have such conceptions. They will be needed soon.

The most universally considered antidote to the automobile's destructivencss seems at the moment to be the electronic motorway. Kucher says of tomorrow's cars, "Man will no longer depend upon human response time and all control functions will be electronic and completely dependable." It is not hard to visualize such dial-your-destination motoring on super highways but for this to be applied to the intricacies of city traffic seems to pose a much greater technical challenge. But it must come if carnage by the automobile is to be reduced.

Whatever lies in the future, it is momentous and it's coming fast. As essential as personal vehicles are to our present economy it is urgent that the designers of tomorrow's vehicles anticipate tomorrow's very different environment with a high degree of accuracy. From what I have been able to observe in Detroit and elsewhere, this scarcely is being done. Business is being conducted as usual, the future is viewed with unadulterated romantic optimism and it is taken for granted that tomorrow we will have everything that we have today, only much more so. Even in his discourses on the future before the S.A.E., Mr. Kucher seems to emphasize 'Tomorrowland' rather than the great impending challenge.

It seems quite safe to predict that the automobile, as we know it, is doomed. It is tremendously destructive of human life. This may be tolerated indefinitely or cars may somehow be redesigned so that they are truly safe. It clots the very arteries that are provided for it's flow, already. If the present ratio of cars to people continues, along with the skyrocketing population, there simply will not be space to accommodate the cars. Finally, the automobile as we know it, is grossly wasteful of resources which in the decades ahead, must become increasingly hard to come by and more costly. This, if nothing else, will force the automobile's transformation.

It's all happening before our eyes. You are seeing it now. Fuel cost keeps going up. So do the costs of materials and finished products. Traffic gets worse. The death and injury rates climb. Population climbs. Daily cars on freeways, throughways, expressways and in city traffic across the nation announce their dinosaur's destiny. It is not that things will change, it's that they are changing day by day and month by month.

This is an exciting and crucial time in which to live but, for it to be lived at all effectively, we must be aware of the staggering forces that are operating. Doing this, we can abet the flourishing of our basically magnificent technological civilization in the years ahead. If we allow our tastes and decisions to be made by spoilers, exploiters and fast-buck hucksters we can only help them run the whole thing into the ground, once and for all. Because, when the resources are squeezed literally down to bedrock, the good old days will never come again. Emigration to the outer planets—which we trust are unplundered—is no answer for seven or twelve billion people. Nor is there any hope of an answer in the importation of significant quantities of basic natural resources from elsewhere in the solar system.

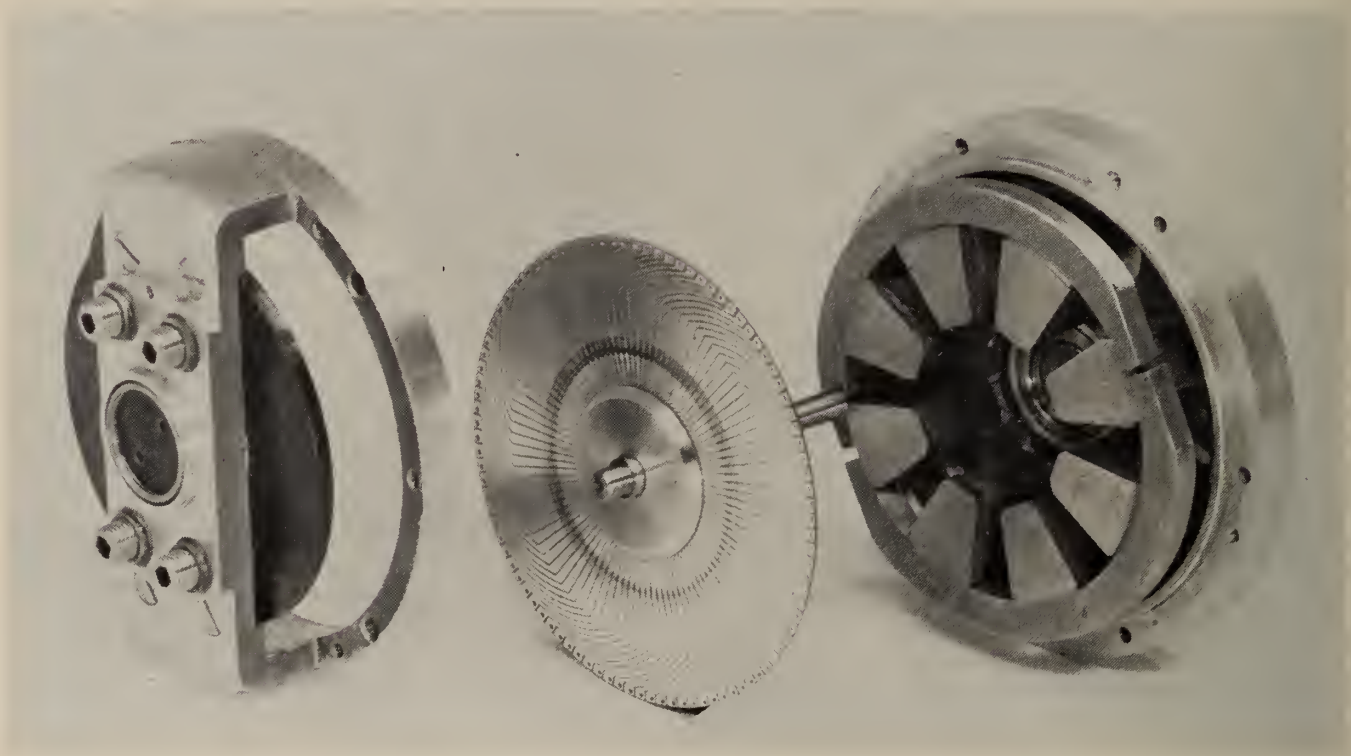
The automobile is one of the major drains down which our resources are being flushed. If we can develop a more realistic attitude toward this basic element of our culture we will be far on our way to a more realistic appreciation of the treasure that tour whole technological civilization represents. This appreciation and its consequent cherishing and conserving of our civilization's gifts is long, long overdue.

Griff Borgeson, Rt. 1, Camarillo, Calif.

Editor's Note: This article reprinted by permission from the November, 1958, issue of Motor Life highlights many of the problems brought on by the technological progression. However the automobile is an essential part of life on the Continent of North America and as such should not be scrapped. The most obvious solution of the problem has been missed and has been advocated by Technocracy since its inception. Of course

(Continued on Page 26)

Technology in the News



The illustrotion shows the relation of the ports of o Printed Circuit Motor. The ormoture presents the oppeorance of o thin perforoted disc mounted on o shoft by meons of bearing flanges. The mognetic circuit shown here is on 8 pole structure excited by Alnico 6 permanent mognets. A seporote commutotor structure is not necessory for most printed mochines. Low drop silver-grophite brushes ride directly on the bore surfoce of the ormoture conductors. The mochines hove o wide horsepower ronge, the shoft output power moy ronge from o few wotts to severol kilowotts. Due to the light weight of the rototing ports it con ottoin its full speed in o few milliseconds, and con be stopped equolly fost. It is peculiorly odopted to smoll Servo mechonisms. (Photo ond description courtesy of Photocircuits Corp., Glen Cove, N. Y.)

Equivalent of Labor of 104,000,000 Men to Be Developed In One Machine

Wall Street Journal—Westinghouse Electric Corp. proposed to build a steam-powered electric generator of 800,000-kilowatt capacity for the Tennessee Valley Authority at a cost of $24 million. TVA had originally requested bids on smaller units but several weeks ago asked electrical equipment manufacturers to submit bids on generators of any size they wished, according to Westinghouse.

The big unit could be delivered by January 1, 1962, the company said. Its large size is feasible because of recent technical advances in metallurgy, it added.

Earlier, the company submitted bids of $9.3 million for a 275,000-kilowatt unit and $11.9 million for a 350,000-kilowatt unit. The larger, 800,000-kilowatt unit would produce power at a cost of $30 per kilowatt compared with roughly $34 per kilowatt for the smaller sized systems, according to Westinghouse.

THIS ISSUE'S COVER

Metropolitan Aqueduct from the Colorodo River
The Metropolitan Woter District of Southern Colifornio

✦

Shown in this photogroph is the Americon Pipe and Construction Compony's huge "Pipemobile" plocing sections in the Big Morongo Siphon os the work of constructing the second borrel of siphons on the Colorodo River Aqueduct moves oheod. In the bockground ore other pipe sections woiting to be moved into ploce. The job of instolling 47 siphons is held by the some compony under two controcts.

New Approach to Making Steel

United States Steel Corp. has demonstrated a new method for making steel by using gas instead of high grade coke, which it calls Nu-I Iron. In it finely divided iron ore particles are suspended in a vessel by a rising stream of hot hydrogen and carbon monoxide gas. This gas reacts with the ore to produce iron.

In the customary blast furnace operation, iron ore is first converted into large lumps. These lumps then are reduced to iron by high grade coke.

Because of its suitability for present finely divided ores, and because it does not require high grade coke, the fluidized reduction process holds considerable promise for future iron making operations, especially for areas such as Venezuela which has abundant stores of rich ore but lack high grade coke.

Toward Safer Highways

General Motors research laboratories gave the first public demonstration of a model highway in which cables beneath the road surface electronically operate miniature vehicles.

One cable controls the car's speed, spacing them automatically and stopping them in the face of obstacles ahead. Another cable gives magnetic guidance to the car's steering mechanisms, keeping them on course without drivers.

Cleaner Than a Hound's Tooth

A Los Angeles firm has developed a machine that makes hand scrubbing of surgical instruments as obsolete as scrubbing clothes on a washboard.

Thousands of scalpels, forceps, and other instruments are used every day in America's hospitals, most of which continue to clean them in the old time way.

By using the new ultra-sonic washer developed by Acoustica Associates Inc., the time needed can be reduced by 80%.

Instead of elbow grease with hot water and soap, is substituted powerful sound waves, pitched too high to be heard, which radiates through the washing tank of the machine.

The high frequency sound loosens and disintegrates dirt, dried blood and bits of tissue more effectively than soap and water. It even gets dirt and impurities that have lodged in the small holes, hinges and saw teeth of the instruments. Doctors in hospitals where the machine has been used report that it removed stains from instruments which they thought was in the metal finish. Instruments come out so clean that they feel oiled.

White Collar Workers Beware

The Air Force announced development of a machine that electronically reads typewritten pages and converts what they say into a form that computers can use.

A prototype of the device, called the Print Reader MX-2021, was developed by Intelligent Machines Research division of Farrington Mfg. Co., Needham Heights, Mass. The company made a research version of the machine under an Air Force contract totalling over $250,000. It said production models would cost much less.

The print reader scans typewritten pages and converts them to electrical signals at the rate of 200 characters a second, the Air Force Research and Development Command reported. The device then converts the electric signals into punched cards or magnetic tape that can be handled by other existing automatic processing machines.

Simpler versions of the reading machine, which recognize only numbers, are already used commercially.

The Air Force hopes to use the more advanced reading machines for such tasks as scanning heaps of technical papers and converting their data into a form that can be stored in other processing machines. The military already have machines that translate, index and locate information. But the original data must be fed into the machines manually. The print reader would perform this task much faster with less manpower, according to the Air Force.

Wall Street Journal

Farm Mechanization

The trend is toward larger dairy farms, more milk from fewer cows, assembly-line techniques and less manpower.

The battle to cut costs of operation may signal the end of the small producer. The small operator cannot afford modernization. The small operator now lives on depreciation.

Why Debt and Taxes?

Faster and ever faster moves the sequence of events. The forces fighting against social change wax more ruthless as they see their position of advantage threatened. These are times of stress everywhere. It is the pressure of that which is-to-be, pitted against the entrenched powers-that-are.

However, time and compelling evolutionary forces are right with us, and the handwriting on the wall is becoming more legible. More and more people begin to wonder why we are being kept in the dark concerning important deals; why so many are unemployed during an era of great productivity; why are prices rising, taxes becoming increasingly burdensome? Why is indebtedness the rule rather than the exception?

One need not be an expert to do a bit of common sense figuring. Anyone reading newspapers or listening to radio or television is aware that mute acceptance is giving way to intelligent inquiry. "What," they ask, "is actually being done with our tax dollars? We need more highways, schools, hospitals, libraries, teachers, civic centers, playgrounds, all sorts of improvements, but revenues are never adequate. Are they being spent wisely, or for unnecessary foolishness? We want, we demand to know the score."

The prospect of retiring our astronomical federal debt is very poor. Even with higher wages and increased profits, the thing cannot be done in a century. This nation faces a practically insoluble problem in taxation, and our currency is being made valueless by price increases and runaway inflation.

On Feb. 14, 1959, $9 billion worth of U. S. Treasury securities held by institutions and individuals all over this nation, matured and came up for payment. Since the Treasury didn't have the cash on hand to pay off the securities, it asked the owners of the IOUs to extend them. And to induce the extensions, it offered close to the highest interest rates in over a quarter of a century —3¾% for a one year extension or 4% interest for a 3 year extension. Holders of more than 22%, or over $2 billion of the IOUs, said "no." They demanded the cash that week-end.

This was one of the biggest mass refusals of U. S. securities on record. To meet the cash demands, the Treasury was forced to borrow a large chunk of money against the taxes to be collected this September.

Informed financiers are beginning to shudder at the magnitude of the debt management problems facing the U. S. Treasury.

In its new borrowing, the Treasury was bumping against the legal debt ceiling. No matter what happens to the new budget, the state of the old one compelled Congress to raise this ceiling.

In its sale of securities, the Treasury also is approaching the 4¼% interest rate ceiling on new bonds (U. S. securities maturing in over 5 years) put on by Congress way back in the World War I era. If interest rates rise just a bit more, they will hit this ceiling and Congress will be faced with an explosive decision.

The present administration reduced the income taxes on corporations by approximately one-third, but that tended to reduce collectible taxes. The savings affected were not invested to increase American production, but a large proportion was invested abroad, which did not increase the earning opportunities of Americans at home. Worse, these foreign investments result in imports coming to America to undersell the markets here, and to create more unemployment.

The nation, the states, the counties, cities and towns, people, business all live on credit. The future carries a tremendous mortgage. More credit is advanced for public and private expansion and improvement, and taxes include interest, and even interest is taxed. Leadership is riding a merry-go-round, as debt is piled upon debt. Politicos join with economists to denounce inflation, but what they really fear is deflation. Sensible people know that a day of reckoning is not far distant. High prices are understandable, only as long as products are scarce, but abundance is incompatible with price, and spells its eventual downfall. That tells the whole story in a nutshell.

The origin of taxation seems to be lost in antiquity. It probably originated as tribute exacted from people by their rulers, and was often excessive to the point of cruelty. Later governments formulated tax laws, stipulating the rate of assessment and other related matters. This carries with it the natural assumption that the revenue thus secured will be used wisely, honestly, and for the best interests of the citizens concerned. Instead, many are the bitter complaints about how the Taxpayers' money is being squandered in the wrong places for the wrong things. Instances are plentiful that substantiate these claims.

Taxpayers themselves are seeking loopholes in tax laws that they may avoid paying part of their taxes. Raymond Moley, columnist, opines that as taxes go higher, national honesty slides lower. The higher the taxes, the greater the amount of cheating. The rich do it with legal help, while the poor fashion their own do-it-yourself methods.

As this goes on, the tax collectors must have more agents to ferret out cheating. That in turn makes more bureacracy, more government, expense, and more taxes. Finally, when there is a breakdown in one area of morality, it is likely to metastasize into other areas. He should know.

The federal government has evidently decided to let private investors handle part of our foreign aid, and offers tax reductions to investors in foreign countries.

Last November, when President Eisenhower was in Seattle, he addressed a conference which was attended by delegates from several underdeveloped Asian countries. He explained to them that Man is not a mere particle of matter, and that the earthly lot of this spiritual being would be improved if the backward areas would only arrange to let the private investor make a fair profit on him. Thus, Mr. Eisenhower happily combined homage to God with service to Mammon.

"In preparation for this 'peaceful crusade,' the Congressional Ways and Means Committee held hearings in December on subject of U. S. private investments. Mainly they testified on the need to change the tax laws, which will assure the crusader preferential treatment or even foreswearing altogether, any taxes on their profits." (The Progressive, Feb. 1959.)

Anyone can see the work of the National Association of Manufacturers and the U. S. Chamber of Commerce in this, knowing their phobia against taxation, income taxes in particular. Add to this the powerful lobby they maintain in Washington, and you know why Congress is lenient, has already granted many tax advantages to foreign investors over domestic. You gather that their profits should be private, but the risks should be socialized. A fine example of free enterprise for the backward Asians to emulate, is it not?

A second major privilege accorded to foreign investment is that our tax laws, unlike those of some other capital-exporting countries do not tax the earnings of foreign subsidiaries until they are returned to the parent corporation. This is known as a tax deferral. A foreign subsidiary can expand its plant out of its earnings WITHOUT PAYING TAXES TO THE U. S. TREASURY. No domestic corporation can expand without first paying taxes on those earnings.

So we find the foreign investor setting up a subsidiary in a tax-haven country like Panama, Liberia, or Liechtenstein and letting this intermediate company hold the stocks. By this means, the high tax rates in one country can be balanced off against the low tax rates in another and the result written off as a dollar for dollar tax credit against the Treasury. Cute, isn't it?

Also, Congress decided during World War II that domestic corporations doing most of their business in Latin America should be given tax rate preference of 14 points, paying top rate of 38% instead of the customary 52%. This was an emergency measure, but was continued in order to encourage investments in Latin America. This represents subsidized, unfair competition, and has nothing to do with investment. A business here in U. S. A., selling shoes to Peru can treat the sales as a form of investment and enjoy the 14 point tax advantage over shoe competitors in other countries or Peru. Many exporters take advantage of this loophole and channel their exports through what is called Western Hemisphere Corporations and thus enjoy this 14 point differential.

Actually, these tax privileges were initiated to encourage investments in undeveloped countries, but instead, the bulk of private foreign investment goes to the safe, more lucrative sectors, and could not be relied upon to do the job of competing successfully with the Soviet bloc in uncommitted, economically backward areas. Henry Kearns, assistant Secretary of Commerce for international affairs, testified and admitted that, "The present pattern of private investment abroad is not adequately responsive to world needs. By far, the larger amounts of our existing private

investments abroad are NOT in those areas where the effects of Soviet economic offensive are felt most keenly, and our existing private investments are devoted largely to EXTRACTIVE industries." His figures show that half our present private holdings are located in Canada and Western Europe, and another 35% in Latin American countries.

Another witness produced additional figures to show that in 1954 less than 1% of direct foreign investments had any effective impact on the undeveloped countries in the context of the Cold War. By 1958 the investments had increased at the average rate of only $55 million a year. In contrast, the Soviet Union had invested $1,500,000,000 in 8 undeveloped countries in 5 years.

Our determination to force backward areas into our own system of free enterprise is hardly likely to endear us to them. Many of these nations have no such public facilities as roads, power transport, health or education which make private business possible.

While on the subject of foreign aid, one wonders just how many NEEDY have received any actual benefit from it. We read that Congressmen held lengthy hearings behind closed doors on aid to such countries as Korea, Indo-China and Pakistan. But the Pentagon put such a tight secrecy lock on the information, the subcommittee said, that it was barred from issuing even a censored transcript of the testimony. Well, we WOULD like to know where those tax dollars go. We can only guess.

We need not leave our own shores to find instances of waste and extravagance. A syndicated writer, Ed Koterba, writes from Washington, telling of the recently erected extravaganza called the Senate Office Bldg. He says, "One thousand times the builder had to tear up plans or tear down parts of the ten story marble building to make the Senators happy. Just how much all this mind-changing will cost the taxpayer, everybody is afraid to say. But it should add up to a pretty penny."

During 1958, our Congressmen sent out 69,634,000 pieces of mail—news-letters, speech reprints, etc. We picked up the bill—a mere $3,591,000, over a million more than the 1957 bill. Of course you may write to your Congressman. He wants your opinions on current issues. But remind him, for the sake of your pocketbook, not to put your name on his master mailing list.

These are but an infinitesimal fraction of the examples of waste and extravagance for which we are asked to pay. Some we cannot trace for they are filed as top secret.

Time is growing short. A world-wide economic and ideological struggle is on. Will Russia put her ruble on the gold standard? What do the manipulators of our monetary system plan to do —spend us bankrupt and create a fascist state? Perish the thought.

Why do we cling so desperately to money? The only thing it guarantees all people is complete freedom from security. It has done more to slow the progress of mankind than any other thing except ignorance.

Our venerable price system is now 7,000 years old and nearing its demise. Born in scarcity and dedicated to waste, it cannot long survive in this atmosphere of abundance. Like the dinosaur of old, which couldn't withstand the rigors of geological change, it has neither the constitution nor the vitality to survive revolutionary change. It has borne the fruit that was inherent in it's beginning, and now must make way for a new evolutionary change, wherein we begin to distribute the abundance that has been produced. His price tag must go.

One might think that we have but two choices —competitive enterprise or communism. Neither one has the answer to America's special problems. The only answer is Technocracy's design for the functional operation of our Continent—efficiency and abundance, without price.

Henrietta Phillips - 11140

Santaquin, Utah

London (UPI)—Britain's once mighty ship building industry is wallowing in its worst slump in more than 25 years.

If the slump in Britain's shipyards continues, officials fear a return to the mass unemployment of the 'Hungry Thirties" in the grimy cities of the Tyne, Tees and Clyde River estuaries. They are the heart of the ship building industry.

The most disturbing feature of the whole situation to the British industry is that Japan and West Germany, whose shipyards were virtually wiped out in World War II, have surged ahead so fast. Figures published by Lloyds show that the average time for construction of a ship in British yards is about 18 months against nine months in Japan and West Germany.

RESEARCH BULLETIN

Real War — No Guns

Mining Record—Informed rumors are now starting to fly through international money markets that the Soviet Union is drawing up plans for a monetary Sputnik—preparing a spectacular financial move which would brillinatly enhance the prestige of the Russian ruble and downgrade that of the U. S. dollar in the eyes of the entire world.

The rumors go like this:

"Russia is going to permit foreigners to buy gold in Moscow. She will let anyone who has money to pay for gold bars (at $35 an ounce, one gold bar costs about $14,000) buy them freely." For a quarter century, our country has prohibited private purchases of gold.

Russia is going to place her ruble on an external gold basis and make it freely convertible in satellite countries. This would create a functioning "Ruble Bloc" comparable to the two other great currency blocs in the world—the sterling and dollar blocs.

Russia will do this "as a major step toward creating a gold ruble that may be owned without restriction by a non-resident of the orbit." Theoretically, this would make the ruble superior to the U. S. dollar. . . .

Price Supports

Not only do we have vast stores of agricultural surplus, but in addition there is about $8 billion worth of everything from castor oil to aluminum in the Federal hoard; it costs about $15 million a year just to store it all. Now the Washington planners have decided that they do not need a good half of it—more than $4 billion worth—and would like to get rid of it.

That poses problems, naturally. The original cost can't be recovered; it's gone. And to unload at one thud, if that were possible would disrupt a variety of markets, the same markets which the government distorted by buying the stuff in the first place. In fact the Office of Civil Defense Mobilization, which has the responsibility for the stockpile, recently abandoned plans to sell $80 million worth of excess copper after hearing protests of Congressmen from copper-producing states.

Therein lies much of the stockpile's trouble. The idea of having a reasonable amount of strategic materials stashed away against the danger of another war is sound and prudent, but the stockpile has gone much beyond that. It has become a junior farm program, aimed at putting artificial price supports under metals and minerals in particular.

Indeed, it sometimes works in cahoots with the farm program, in ways that would tax the satiric imagination of Dean Swift. For example, surplus American farm products have been bartered abroad for materials for the stockpile—materials for which the U. S. has no more use than it has for the agricultural goods bartered to get them.

Perhaps what the country really needs, before this folly gets any more expensive, is to barter some of the Government's departmental and Congressional Planners. Or better yet, give them away.

Grist for the Red Propaganda Mill

Economic collapse is the greatest danger confronting Latin America today.

Economic chaos could be more perilous to the western hemisphere in general, and the U. S. in particular, than the political wrangles now going on.

It would give the flaming nationalists and communists the opportunity they've been looking for to arouse the "masses" against the "oligarchs," the propertied classes, and to beat the drums of hatred against the "Imperialist Yankee exploiters."

Governments of more than half of the 20 countries are on the verge of bankrupty, and very few are making any serious efforts to stave it off.

Observers agree politics is a major ailment afflicting the majority of our neighbors.

Washington Daily News

Needed, A Comprehensive Plan For Public Health and Education

Los Angeles Times—One of the every seven young men in the United States was rejected or discharged from the armed forces during World War II for mental or emotional reasons, it was reported today.

That was the finding of an eight-year study by Columbia University into the failure of 2.5 million men between 18 and 37 years of age. The study concentrated on 72,000 cases.

Schooling and background proved important in determining whether a man would break in service, the study disclosed, adding:

"The least educated, those with only a few years of grade school, had an ineffectual rate in the army four times greater than the high school and college man."

As for background the report said:

"In every regard the farm population showed up more poorly than the city population—they had higher rates of rejection, higher breakdowns in the Army, and lower recovery rates after the war."

Misusing Land

An additional 1 million acres of farm land is being drawn into factory sites, suburban housing, roads and airports. The new superhighways alone take a big bite: A wide new road consumes 4,000 acres every 100 miles.

Confirmation of Technocracy's Analysis

Los Angeles Times—An automatic society developed by engineers and scientists was forecast tonight by Dr. Simon Ramo, vice-president of the Thompson Ramo Woolridge Corp.

He warned a banquet gathering of the California Air Force Assn., however, that the space age will be hopeless chaos, unless social advances keep pace with technology.

"New conceptions are needed to assure order in the future technical age," Ramo said.

"We are heading for the automatic society, where production, transportation, communications and even education will be achieved by semi-automatic techniques in large, integrated complexes of men and machines.

"To be certain that wisdom will accompany imagination is going to become increasingly difficult."

Communism vs. Fascism?

Only a Technocrat can refute the ideologies of Marxian communism—as well as those of fascism and 'capitalism'—and make it stick.

Even Roman Catholic propagandists, supposedly the staunchest of anti-Marxists, must have 'tongue-in-cheek' reservations when they denounce the Soviet Union and its ideological followers elsewhere. After all, both the Catholic hierarchy and the Bolshevik government of Russia (along with the 'capitalists' of America) fully approve and sponsor the following social phenomena:

(a) Political government.

(b) Money, price, taxes, bonds, debt, and banking. (The biggest bank in the world is where? — in Moscow! It makes the Bank of America and the Chase Manhattan banks appear like small-loan shops in comparison. The Vatican has its Central Credit Institute of Rome, the Catholic Bank of Venete, Vicenza, and others).

(c) Buying and selling, profits and wages, business enterprise (whether privately or state-owned).

(d) Ownership and property.

Incidentally, it is interesting to note (though it has been kept secret from lay Roman Catholics for many years) that the late Pontiff, while still Archbishop Pacelli, tried as late as ten years after the Bolshevik revolution to get the Soviet communists to sign a concordat with the Vatican (as he later succeeded in doing with his Bavarian friend and confidant, Hitler); but Moscow, suspicious, turned down both him and the Vatican.

World oil use may exceed 41 million barrels daily by 1975, more than two times the present rate. Trade experts made this forecast to 5000 petroleum scientists and engineers from 48 countries assembled in New York for the Fifth World Petroleum Congress. Dr. Robert E. Wilson, former head of Standard Oil Co. (Indiana), said atomic energy is no threat to oil industry. Instead, he contended, it should be viewed as a development which will come along "in the nick of time" to help the world meet its burgeoning demand for power.

There Ought to be a Law

Dear Senator:

I see where all the political candidates for 1960 are going to Russia and having a talk with Khrushchev and then coming back and claiming to be experts on Russia. It also makes them experts on foreign affairs and the Cold War, which is also good for some votes. I think that it's a good thing having our people go over there and tell the Russians the truth for a change.

I don't know how important it is for the politicians to talk to the common people in Russia, because they are all brain-washed with propaganda and probably wouldn't know the truth if they heard it. Besides it's awfully hard to talk to people when you don't know their language. And I don't see much point in the candidates talking politics to the Russian people anyway, because they don't vote in our elections. I know it wouldn't do the Russian politicians any good to talk to the common people over here, unless they were interested in horse races and baseball; we are all experts on that subjects. I hear Mr. Nixon just loves to talk to the common people. Maybe it makes him feel like he is among his own kind.

Now this is what I want you to do. It is unfair to let some of the candidates go over and talk with Khrushchev and not let the others. So I think you should pass a law which will let all the presidential candidates, anyway, go to Russia and have equal time with Khrushy.

Sincerely yours.

BEETAL BRAYNE

P.S. You might arrange for them to have some time with Kozlov or Mikoyan also. They seem like they're easy people to talk to; but I don't think it would do much good to have them talk to Gromyko.

Inflation, Taxes and You

Most people will agree that inflation and high taxes are bad and that somebody, some day, ought to do something about them. But not many people seem to be in very much of a hurry to get it done.

One reason for this attitude is that there are people in Congress who tell the public that a little inflation is a good thing.

Another reason is that for many people the dangers are sort of hard to put a finger on. Take high taxes, for example; the Federal withholding tax—now being adopted by some of the states—does a pretty good job of masquerading how high taxes are. The tax is there for the man to see but while he might occasionally grumblingly note what Uncle Sam has withheld, what impresses him most is not what he didn't get but what he did. Thus many people have come to ignore the withheld taxes and to consider only their take-home pay as wages for their work.

Inflation is even more insidious than withholding of taxes, for it has a way of sneaking up on a man little by little. Sure, the man says, things are maybe a little higher this year than last overall, but that's the way the ball bounces.

Well, the ball bounces a little differently from the way most people think, for it has a way of adding this year's bounce to last year's. The Tax Foundation tells us in a comparison between 1959 and 1942. These years were chosen because the tax rates of both years are very nearly the same: in 1942, the first bracket rate was 19% and today it is 20%, while in 1942 the highest bracket rate was 88% and today it is 91%.

Inflation, however, has taken a far more terrible toll according to the research organization. A man earning $3,000 a year in 1942 must by 1959 have had wage or salary increases amounting to $2,613 to be able to keep up with prices today. To live as well as he did on $5,000 in 1942, a man with a wife and two children must today earn almost twice as much—or $9,233. A 1942 $10,000 man must bring home $18,190 to keep his family on the same living scale.

But bad as this is for wage earners, it's a lot worse for some others. A widow, for example, who in 1942 looked to the future with an annual income of $3,000 and some confidence finds that her income has been reduced in purchasing power by almost 50%; her $3,000 is worth only $1,600 in 1942 dollars. —Wall Street Journal

CHINA MOVES UP FRONT

China for the past ten years—since the 'liberation'—has made remarkable technological progress. The Chinese advance, starting from almost nothing, has accelerated faster than the progress of any other great nation. Already it has changed the social structure of China and is now rapidly altering its way of doing work. Soon, it will advance China into the position of Number Three industrial nation of the world. Aside from its industrial progress, China has made enormous improvements in its agriculture. Last year's *wheat* crop in China was about equal to that of the United States; and its cotton crop surpassed that of the U. S., making China the world's Number One producer of cotton. China has achieved this technological advance against the open opposition and hostility of the United States. China's only major friend has been the Soviet Union.

China has not had to struggle slowly upward technologically through trial and error as did the other modern nations. The world's most advanced knowledge and know-how are available to the Chinese, and they use the best there is and add improvements of their own.

In spite of the 'see nothing, hear nothing, say nothing' attitude of the American information services (under pressure from U. S. State Department), this knowledge of China's progress over the past ten years has been known in America. But it was kept hush-hush as long as possible. Now it is too conspicuous to be ignored any longer. So bits of information are dribbling into American publications. In another place in this Magazine, we reprint a recent article from the *American Machinist* which presents a little of this information as it applies to the field of metal working; and the article attempts to play it straight, which is more than can be said for many other American publications.

Red China Bids for a Place in the Metalworking Sun

Today, Communist China is throwing production quotas to the winds in an all-out drive to transform itself from an industrially backward nation into one of the world's major metalworking powers. The time table: just 20 years.

This year marks the launching of the second of four Five Year Plans designed to serve as guide posts along China's way to industrialization.

This is the "Year of the Leap" in which the impressive accomplishments of the first Five Year Plan are being overshadowed. Topping China's agenda—along with greatly increased production of steel, coal, electric power and other basic needs of industrialization—is rapid development of its own machine tool industry.

Machine Tool Output Up 60%

Under China's first Five Year Plan, production of metal-cutting tools alone increased more than 60%—from 13,700 units in 1952 to 22,600 units in 1957. Along with this, the materials that go into making of metalworking products were turned out in greatly increased quantity: steel output quadrupled, coal production doubled, electric power almost tripled.

Industrial achievements of the first Five Year Plan, while impressive (1000 cu-meter blast furnaces, for spindle automatic lathes, jet aircraft, 185-ton open hearth furnaces, thermo power equipment, motor trucks), have been exceeded in 1958, the first year of the Second Five Year Plan. This year alone has seen production of China's first seam welding machine, 450-hp diesel engines, a precision gear grinding machine that achieves tolerances of less than 0.003 mm., a vertical drilling machine capable of drilling 75mm.

diameter holes, a centerless grinding machine, a single-spindle automatic lathe, a 150-ton traveling crane, and all-purpose tractors. And several other types of heavy and precision tools will go into production soon.

The present tempo of industrial advance in China is so phenomenal that Peiping radio has been claiming new "firsts" for the country's industry practically every week. In May, June and July alone, China claims to have produced:

- Micro-crystal ceramic cutting tools from aluminum oxide. (Shanghai is expected to produce 100,000 such tools in the second half of this year, and large scale production is to begin in Shantung province next year.)
- An electro-spark drilling machine that employs electro-erosion to drill 25 to 10,000-sq. mm. holes as accurately as a grinding machine.
- Self lubricating berings. (A Peiping radio instruments plant is slated to produce 1.5 million sets of bearings this year.)
- A high precision watch lathe 265 centimeters long, weighing 5.4 kilograms, which achieves 4550 rpm.
- A high-precision inside dial indicator capable of working to tolerances of 0.004 centimeters.
- An alloy steel punch with a tolerance of less than 0.015 mm. for making slots in silicon steel sheet.
- Two copy-milling machines and an optical dividing head. (These were trial produced at a machine tool plant in Kunming in July). The 460 electric copy-miller was reported to be highly accurate. Modeled on a Soviet machine, this semi-automatic unit is controlled by an electronic regulating system, is said to compare favorably with best foreign machines. The other copy-miller is semi-automatic, is designed for mass production of parts with complex curved-plane contours, and is claimed to be easier to operate than western machines.

Chinese made machine tools

Here are a few examples of machine tools that have been in regular production for some time: a B220 planer weighs 67 tons, is equipped with 15 electric motors with a total capacity of 140 kw and can handle parts as large as 6.5 x 5 x 23 ft., weighing up to 20 tons. Maker is Tsinan Machine Tool Works, Shantung province.

- An automatic machine tool for manufacturing head stocks, made by Darien Machine Tool Works, northeast China, has 24 spindles fitted with drills, broach, boring tools, and a variety of other cutters. Machine will perform roughing or finishing operations automatically, can produce a head stock in 16 minutes.
- M-2017 automatic grinder—China's first fully automatic centerless internal grinder—was produced by the Wusih Machine Tool Factory in Shanghai at the end of last year. The grinder works to a tolerance of not more than 0.005 mm., is especially suited to mass production of shaft bearings.
- China's first electric automatic lathe, the 1A136, made in Nanking, can work on three or four pieces simultaneously, processes any type of bar-shaped metal detail and can produce 12 kinds of parts to various specifications.

"Year of the Leap"

Calling this the "Year of the Leap" in Communist China is no idle boast. Originally, machine tool production goals for 1962 (last year of the Second Five Year Plan) were pegged at 60,000 to 65,000 units, but the Peking government hopes to far exceed this year's quota. The overall aim is a spectacular increase in national industrial output, with special emphasis on heavy industry.

Some figures recently quoted by the Chinese press are interesting: The total value of industrial output for the first five months of this year was 30% higher than in the same period last year. May alone saw an increase of 46%. This contrasted with the standstill or even decline in industrial output of some Western nations, is the measure of the challenge that is developing in China.

Accent on Heavy Industry

Communist China's First Five Year Plan stressed the development of heavy industry even more than did the Soviet Union's first such plan. During Red China's first five-year period, investment in those industries manufacturing basic means of production accounted for 88.8% of total investment in industrial construction. Before the First Five Year Plan China could turn out only small machines and some spare parts. Now it is making more than 200 types of machine tools, plus complete factory installations for a number of industries.

Nearly 400 Types of Steel

As recently as 1952, China could make 180 types of steel and steel products to some 400 specifications. By 1957 the range had extended to about 370 kinds of steel and steel products made to more than 3000 specifications.

In June of this year, it was officially announced that China aims to produce something like 10,000 types of steel products by 1961.

Just how is China going to accomplish its industrial Revolution? One of the main tasks is "to build China into a great socialist country with modern industry and modern science . . . by turning all big and medium sized cities" into industrial cities. This movement, already well under way, will increase machine tool production considerably by extending it well beyond the comparatively few centers where it is now concentrated.

At the end of last year, there were more than 20,000 metal-working plants of all types in China, employing 1,176,000 people. Major plants are in industrialized northeast China (Manchuria) and in such coastal cities as Tientsin and Shanghai.

Now the government's aim is to organize machine tool production in provinces throughout China, partly by using existing plants, and largely by building new ones.

Particular attention is being paid to manufacture of special duty and precision machine tools, and in reorganizing existing plants toward specialization. For instance, work is now under way on construction of a machine tool plant in Kweiyang. By 1960 this plant is expected to turn out 4,000 to 5,000 lathes, planing, drilling and milling machines a year.

A grinding machine plant, the first modern factory of its kind in China, is being built in Chengchow, Honan province, with East German aid, and is scheduled to be completed early in 1959.

Small and Medium Plants Too

Recently the Chinese have ceased to concentrate exclusively on major plants, because "big industry obsession" is regarded by some leaders as a barrier to rapid industrialization. Emphasis is now on simultaneous development of big, medium and small enterprises—as is being done with the machine tool industry in Honan province.

There a fully integrated machine tool industry is being established on a basis of 13 main and 11 subsidiary plants which have already been built. Production is continuing in these plants while they are being extended and integrated, and some 15,000 people are being trained initially for work.

By the second half of next year, production is to begin on complete packages of equipment for the machine tool, internal combustion engine, tractor and tractor parts, furnaces, pump, and electric motor industries. By the end of the Second Five Year Plan (1962), the province will have 110,000 trained technicians in metalworking, and more than 20,000 employed in machine tool manufacture.

Shenyang, in northeast China, is a major metalworking center. The heavy machinery plant there has been expanded into one of the country's biggest enterprises, producing complete plant "packages" of metalworking and other industrial equipment. For instance, Shenyang is now turning out 2500 ton presses capable of forging 45-ton steel ingots.

To accomplish this, the plant has been newly equipped with steel smelting, casting and forging shops, a 2,000-ton hydraulic press, 6-meter vertical lathes, 10-meter openside planers and 5-meter lathes—all designed by the Chinese themselves.

Shanghai Makes Heavy Machinery

Shanghai, China's biggest city, is switching its production to precision tools and heavy machinery. A heavy machine tool plant will be constructed late this year, and the city has already set itself a goal of producing more than 5,000 machine tools over the quota set earlier this year.

China's capital, Peiping, is also beginning to assume a new industrial importance—in June work started on a big ball bearing plant on the outskirts. And the capital is already turning out hobbing machines, punchpresses, universal milling machines and several other types of machine tools, including lathes, as well as printing presses, tractors and automobiles.

80 Projects Under Way

Altogether China has some 80 projects designed to strengthen its machine building industry under way. Twenty-seven of these will be finished this year. This will enable China to produce (in addition to current output) 30,000 more tons of metallurgical machinery per year, 27,000 tons of mining machinery, 20,000 tons of heavy machine tools and something more than 10-million ball-bearings.

One of the aims of China's technical revolution, according to the Peoples Daily, "is to enable industry to produce "hundreds of thousands of machine tools annually instead of the tens of thousands it now turns out." But the paper admits a "fairly long period" will be needed to fulfill this goal, even though China's Minister of Machine Tools, Chao Erh-Lu, expects China to catch up with the world's most advanced technological levels within ten years.

'NEW ORDER of the Ages'

The Great Seal of the United States, on the reverse side, depicts a truncated pyramid with an All-Seeing Eye on top and bears the Latin inscription, 'Annuit Coeptus Novus Ordo Seclorum.' This inscription is translated as, 'Time Makes Way for a New Order of the Ages.' This is a motto of progress and of social change.

Back in the horse and buggy days of hand tools, human labor, and ever-present scarcity, it was very difficult to envision a new order of the ages; but, even then, there were a few visionaries. For example, toward the end of the 19th century, Edward Bellamy published his book, 'Equality.' He was branded as an imaginative but impractical 'visionary.' No one 'in his right mind' could accept such ideas as the Air Car, the Horseless Plow, or the Electroscope (television) of which he wrote. But by the middle of the 20th century many of the inventions and innovations of which Bellamy wrote had become common place. Evidently, Mr. Bellamy had an intuitive awareness of the direction in which social change would move.

Evidently the author of the inscription on the Great Seal, whoever he may have been, was also a visionary. Although he did not furnish a blueprint for a New Order, he at least presented the idea of its inevitable occurrence.

Today, the world is much in need of leadership with vision and wisdom; and it needs the guidance of men and women who understand technical matters. As it is, our Continent is jeopardized by the static values of the golf course, of financial institutions, and of political offices.

It is now quite apparent that history has reached the end of an era and that the world is in transition from an old to a New era. But visionless leaders, unable or unwilling to read the signs of the times have been pursuing a road that has no positive ending, terminating only in the rubble of colossal destruction. There is no valid long-term reason for our spending billions of dollars and risking innumerable human lives just so our businessmen can gain possession of oil and other resources on the other side of the earth.

America's basic problem is not on other Continents. It is here on our own home territory, and it directly concerns the welfare of our own millions of needy bewildered people. The time is now due when America should enter into the New Order which science and technology have been preparing (wittingly or unwittingly) for us over the past century.

North America is richly supplied with abundant material resources and with the knowledge and machines for turning the materials into useable goods and services—into an abundance for all North American citizens.

But an abundance, over 98 per cent of which is produced by machine energy and less than two per cent by human labor (as at present), cannot be effectively sold or distributed on the basis of wages and salaries; nor can it permit the continued use of money as a medium of exchange. Wages and exchange are concepts of a scarcity economy. They cannot effect distribution of more than a mere fraction of our potential technological capability to produce.

Because of the discrepancy between our present production and distribution, our government is piling up huge 'surpluses,' which are paid for by the people through taxation, but which is denied to them. These 'surpluses' are allowed to rot in storage, are destroyed, or are dumped in foreign lands while America's own needy, in the millions, suffer for lack of the things they sorely need but cannot buy. The United States, today, according to recent reports, has in excess of $5 billion worth of food and other products spoiling in storage, and the storage charges in excess of $1 million per day are charged up to the taxpayers. In the meantime, at least one-third of our citizens, some 60 million of them, are ill-fed, ill-housed, and ill-clothed. It is a problem of distribution which the Price System has not, and cannot, solve.

What America sorely needs today is a medium of *distribution* rather than a medium of exchange (money). What we need is a simple and effective means whereby all citizens of North America may share in their common heritage. That heritage consists of an abundance of goods and services.

The signs of our times indicate that, from now on into the future, industry will require less and less human labor to produce more and more. As a consequence, no one will have to work for long

hours at toilsome jobs. The essential work of the Continent will have to be spread thin so that all citizens will have the opportunity to do their share. Hence, the future citizens of North America will need to be employed, at reduced hours and days, for only a few years in the younger part of their lives. Then, they shall be retired on full income for the rest of their lives. That is what the 'signs' point to as a social necessity.

As it is, millions, both young and old, are being 'retired' from employment without their consent and without pay. Many of them resort to crime to gain a livelihood. Others enter crime as a simpler way of getting ahead in the economic system. A recent report of the F.B.I. places the crime bill at $20 billion. Court records show that about 95 per cent of all crime committed in the United States is for money or other economic gain. This bill must be chargeable to the Price System. Without money and exchange, but with a high income for all, there would be little incentive to steal or commit other crimes of an economic nature. Besides the cost to the nation of crime, in terms of dollars, there is a high cost in sorrow, suffering, and inconvenience of the citizens which crime produces. This is all so unnecessary in an era of abundance.

Is there any American who would oppose the provision of abundance for all, including himself? If there be such, then you know he is an enemy of progress and a supporter of poverty, crime, and strife.

Abundance would free North America of poverty, the distress of unemployment, internal strife, and charity drives. Shall Americans continue on their sorry way, with more than a third of their people in distress, or shall they enter upon the road to the New Order of the Ages, in which all citizens shall share abundantly in the production of a balanced-load economy?

When we are organized and equipped to supply our own material needs, then it is soon enough for us to extend our humanitarianism to foreign lands to help relieve human suffering occasioned by drouths, floods, and other disasters.

America is in the race for world leadership. Therefore, America should show the way. Let us take the lead, not in destruction, but in making the world a good place in which to live. Let the war banners be furled and war bombs be hurled no more. Let us seek to live in a peaceful world, free of strife and turmoil.

That is the practical 'vision' which the New Order of the Ages presents to us. It is not up to 'fate,' but up to *us* to translate this vision into reality. The way to do this is through Technocracy, for no other way has been charted.

—Serena E. Powell, MAL

A vehicle that can skim along just above the land was announced by Roy T. Hurley, president of Curtiss-Wright Corp.

Powered with conventional piston engines the 'Air-Car" will travel six to twelve inches above the earth. A two passenger experimental model has been successfully "flown" and models carrying one to four passengers can be built, according to Mr. Hurley.

A propeller rotates parallel to the ground and forces air beneath the Air-Car, thus pushing it up on an air cushion. A portion of this air is directed behind the vehicle, providing the necessary thrust to propel it forward. The vehicle can be operated in any horizontal direction over any unobstructed terrain, including highways and fields. According to Mr. Hurley the Air-Car is a potential farm, airport and ranch implement.

The Air-Car will be offered for sale in limited quantities, after learning customers requirements, the sizes and powers.

"Anyone who can drive an automobile can quickly learn to operate the Air-Car. Operating costs would be low and prices competitive with automobile prices. Piston engines of 50 to 200 horsepower will be used in early models.

(Evidently manufacturers are just catching up with the Science Fiction writers who have been using this type of car in many of their stories.)

Science and Employment

A letter to the Editor of the Wall St. Journal.

I offer for general consideration the distasteful but inescapable fact that technological advance has caught us completely unprepared to deal with its forays into industrial employment. Leaders of management and labor, of both political parties, of the media of communication—have been engaged ever since mid-1957, in a gigantic "guessing game" about the recession, unemployment, and the effects of both on political prospects for parties and candidates.

We are all hiding the fearsome realization that we know nothing about technological unemployment and, even worse, we are making no concerted effort to learn anything.

Now we have the figures for May, 1959, and we see a new high of 66,016,000 in total employment. But we still have 700,000 persons who are unemployed more than 26 weeks and have exhausted compensation and benefit programs. These 700,000 long-term unemployed are primarily the technologically displaced; they represent some 2,000,000 persons in a family group, and they comprise the biggest segment of the 5,230,0000 persons existing on a dole of surplus commodities.

Have they been laid off, to be recalled later? No, they will never go back to work because their jobs have vanished. They are miners, steel workers, foundrymen, railroaders, textile workers, fishermen and others; they are men who once formed the backbone of our work force—men whose jobs required that they be strong and durable and willing to face the daily hazards to earn a living.

How do they get displaced? It works like this: Last month a newly mechanized mine was opened. Formerly it produced 3,000 tons per day, with 300 men averaging 10 tons each per day. Now it produces 3,000 tons per day also, but only 60 men produce an average of 50 tons per day each with the help of the latest automatic mechanized equipment.

What happened to the other 240 men? They are idle, and will be indefinitely.

Our economy is writhing in the toils of a revolution brought on by the massive forces of pure science adapted to the needs of business and industry. It has been going on since 1945 when the huge breakthroughs in technology purchased by war-spent billions were turned loose to be analyzed, scrutinized and then assimilated into our competitive business structure.

Already we know there has been a 46% increase in efficiency in mining since 1948, so that the same tonnage requires 95,000 fewer workers. In oil refining there is an estimated loss of 71,800 jobs during the past 10 years. In the automobile industry the loss because of higher output per man is estimated at 132,000 jobs during the past decade. Since 1945, the output per worker has increased 19% in the steel industry, with estimated loss of 101,000 jobs to produce the same tonnage.

In the business arena, among the spokesman for labor and management, each side disclaims responsibility for the technologically unemployed. Labor says management is trying to squeeze out the last ounce of profit without a thought of its loss of consumers in the process. Management says it must increase efficiency because union demands have raised labor costs to exorbitant levels.

The truth is that neither side is primarily responsible, and nothing of lasting benefit can be accomplished by considering it in terms of accepted bargainable issues. The overwhelming force behind today's technological advance has never been measured or even estimated, but it is world wide in scope, that much we know.

It is time for an inquiry to be made, a dispassionate and clinical study of where we are heading in the use of the methods and techniques at our disposal—an inquiry not in terms of labor vs. management or Republican vs. Democrat, and not an effort to fix blame or charge social responsibility. I have suggested to the Congress that such an inquiry be authorized.

(Continued on Page 26)

TECHNOCRATS ON THE AIR (cont'd from p. 7

All this occurred on Monday night. Tuesday night was devoted to the Flying Saucer Club so nothing came over for Technocracy. But—Wednesday, Thursday and Friday nights the battle was still on. Thursday evening, Mr. Hunter voluntarily called George back to answer questions which had come in, which he was unable to satisfy. Almost without any interpolations by Mr. Hunter, George then gave a twenty-four minute talk as good as his first one. Altogether we monitored sixteen hours of time devoted almost exclusively to Technocracy. Mr. Hunter would suggest that some other topic be discussed and the next call would be someone asking more on Technocracy.

The Technocrats of this area could never have afforded to pay for this kind of publicity. It was an inspiration and a terrific boost to morale.

George ended one of his talks with, "I am proud to have been associated with an organization such as Technocracy."

SCIENCE AND EMPLOYMENT (cont'd from p. 25)

Above and beyond that, however, it is time for our business leadership to be alerted to the growing pool of technologically unemployed, because these people are a social charge against a necessary program of economic progress. There are answers to be found, and we can find them, but first we must recognize the problem and decide to begin looking.

John M. Slack, Jr.
House of Representatives
Washington, D. C.

This is a pretty potent brew for a politician to be handling. The principal criticism we make is that IF he has answers, short of Technocracy, and within the framework of the Price System, he had better produce them fast.

NOTE: The date of expiration of your subscription is on the envelope at the right of address.

CHANGE OF ADDRESS

Please send your new address at least 30 days before the date of the issue with which it is to take effect. Enclose the old address with the new address. The same applies to expirations. Send correspondence to:

The TECHNOCRAT
8113 South Vermont Avenue
Los Angeles 44, California

END OF AUTOMOBILE (cont'd from p. 11)

writing for Price System publications the author had to tone down his thoughts.

Suppose we approach it as an engineering problem. What we are interested in fundamentally is transportation, allowing us to get from here to there, whenever we want.

With a redesign of cars, with a limited number of body styles, the chassis and working parts could be pretty well standardized, and without annual model changes, built properly they could serve for several hundred thousand miles of safe transportation. This would conserve on the natural resources so lavishly wasted today.

An appraisal of the use of cars now shows that the average car is used approximately one hour out of twenty-four or a load factor not exceeding 5 per cent. By raising the load factor, to say 50 per cent, we could have the same amount of transportation with one-tenth the number of cars. This would relieve the congestion on the highways, reduce the air pollution and the number of accidents.

Of course this could not be accomplished with privately owned cars but would have to be administered as a sort of National U-Drive-It arrangement. You would still have the use of a car for any purpose you desired, but without the problems of upkeep, insurance, finance and all the aggravations now current.

There are many implications to such an idea. For city living for instance, there would have to be implemented a public transportation system which would allow you to get to any place in the city without walking over two or three blocks. Right now in almost any large city such a transportation system could be installed at less social cost than at present and without fares, transfers, etc.

We are not suggesting that any of this could be accomplished in a Price System. Only in a scientifically administered social mechanism such as a Technate will it be possible. Then many of the problems which plague us today can be submitted to the same kind of solution.

The TECHNOCRAT STAFF

Leland Proctor.....Editor
Richard Burnett.....Assistant Editor
Kenneth Wolford.....Research Editor
Maysie Foster.....Circulation Manager
Marjorie T. Clouse.....Business Manager

TECHNOCRACY

North America's Only Social Dynamic

WHAT?

Technocracy is the only North American social movement with a North American program which has become widespread on this Continent. It has no affiliation with any other organization, group or association either in America or elsewhere. The basic unit of Technocracy is the chartered Section consisting of a minimum of 50 members and running up to several hundred. It is not a commercial organization or a political party; it has no financial subsidy or endowments and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsidence allowances. The annual dues are $9.00 which are paid by the member to his local Section. Members wear the chromium and vermillion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHEN?

Technocracy originated in the winter of 1918-19 when Howard Scott formed a group of scientists, engineers, and economists that became known in 1920 as the Technical Alliance — a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934 Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundation of the present Continent-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHERE?

There are units and members of Technocracy in almost every State and in every province in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces. Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the location of the nearest Technocracy unit.

WHO?

Technocracy was built in America by Americans. It is composed of American citizens of all walks of life. Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this Continent. Membership is open only to American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective office or active office in any political party.) Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher, or housewife—so long as you are a patriotic American—you are welcome in Technocracy.

The TECHNOCRAT

Offering to the American public a medium by which it can learn the facts regarding the transition period in which we are moving toward a New America of technological abundance.

PAMPHLETS

Introduction to Technocracy	25c	Continentalism—The Mandate of Survival	15c
Make Way for Social Change	15c	The Culture of Abundance	15c
Man Hours and Distribution	15c	'There'll Always be an England'	10c
The Energy Certificate	15c	'Our Country Right or Wrong'	15c
Science vs. Chaos	10c	America Must Show the Way	15c
		'The Sellout of the Ages'	10c

We have available additional copies of "Stampeding to Disaster," at 25 copies for $1; this timeless article is a good contact piece.

September, 1959 Whole No. 191

The TECHNOCRAT is published quarterly (Mar., June, Sept., Dec.) by a Managing Board at 8113 So. Vermont Ave., Los Angeles 44, Calif. Entered as second-class matter April 12, 1938, at the post office at Los Angeles, California, under the Act of March 3, 1879. The TECHNOCRAT is an authorized publication of Technocracy Inc., Howard Scott, Director-in-Chief, Rushland, Pennsylvania. Subscription rates: 25c a copy or 4 issues $1.00, payable in advance. Send all correspondence to (and make all checks and money orders payable to) The TECHNOCRAT, 8113 So. Vermont Avenue, Los Angeles 44, California.

Telephone PLeasant 1-0828

Not responsible for unsolicited manuscripts unless accompanied by return postage. Entire contents copyrighted 1959 by the TECHNOCRAT.

SUBSCRIPTION ORDER

To: THE TECHNOCRAT
8113 So. Vermont Ave.
Los Angeles 44, Calif.

Enclosed herewith in $ ..... to cover subscription(s) to Technocracy Magazines for ..... years.

(All three publications are quarterlies, but so rotated that one appears each month.)

ALL THREE MAGAZINES—
☐ 12 issues (1 year), $3.00

THE TECHNOCRAT—

TECHNOCRACY DIGEST—

NORTHWEST TECHNOCRAT—

☐ This is a new Subscription.

☐ This is a renewal Subscription.

START WITH ..... ISSUE

Send to:

.....

.....

.....

(Foreign rates, other than Canada, Mexico, and U. S. Territories 20% additional to above rates. Canadian orders payable in U. S. funds.)

The people of the United States and Canada are being deluded with fairyland concepts about population and standard of living. For more than a century, these areas have been subjected to bonanza exploitation. This can be done only once. When irreplaceable resources, such as fossil fuels, metals, and mineral fertilizers are exhausted, they are gone forever. The United States is rapidly approaching the end with respect to several important resources. Further, these areas, particularly the United States, have been in a position to live beyond their income, even after allowing for their bonanza exploitation. They have also lived off the produce and labors of external areas, which have provided them with various low-cost imports. When it comes to living on the resources of one's own area, pro-rated over a long-term period, the social problem becomes much graver. Yet that is what must be done if we are to achieve social stability on this Continent. On such a self contained, long-term basis, North America is already exceeding its optimum population by several tens of millions. Every new million added to the present numbers will add to the burden and hazards of social living and contribute to a reduction in the general standard of living. What is more, since there are already many more people here than are required to operate the area, even on a reduced-work basis, all additional numbers will have to be carried as dead weight by the society.

TECHNOCRACY
PROVIDES THE DESIGN
FOR THE
DISTRIBUTION OF ABUNDANCE
TO
ALL NORTH AMERICANS

— SECTION STAMP —

GROUP A. R.D. 11353
TECHNOCRACY, INC.
BOX 653 EDMONTON
GA 4-8352

The TECHNOCRAT

PUBLICATION OF TECHNOCRACY INC. • LOS ANGELES • CALIFORNIA

Dec. 37

IN THIS ISSUE:

- Who Does Your Thinking for You?
- An Automated Egg Line
- Research Bulletin
- What Helps Business Does Not Help You
- There Ought to Be a Law
- Some Reflections on Science and Society
- Fiscal Crisis

NEWS MAGAZINE

Whole No. 192

25 CENTS

The TECHNOCRAT

DECEMBER, 1959

Editorial

We'll Get There Too, I 'Betcha', I 'Betcha'

Editorial from the South West Technocrat Bulletin.

Doesn't it do your heart good to be living in this year of 1959 wherein two powerful nations of opposing ideologies have such a war potential as can render each other helpless, devastate and lay to waste each other's land area, not to mention (God forbid) eliminate each other's ideologies? Yes, sport and romance is no longer to be found in war. The leaders of nations can no longer say to us 'peons', "Let's you and him fight."

It must have been nice going for all involved when knightly manhood could go to war riding a fancy charger, wearing bright, clanking armor and toting a sword and buckler (not to mention the local female 'tribe' cheering one on from the sidelines). No siree, Alphonso, it jest ain't what it used to be.

It's amusing to observe the antics of our politicians and war lords concerning the missile and space travel race against a nation like Soviet Russia whose economy doesn't demand a profit from the development of such playthings.

When one observes the actions of the Soviet Union with a detached, objective, unemotional attitude, one begins to wonder if that nation is really serious about harvesting beans on Venus or encouraging rock hounds to scrounge for setting stones on the Moon or if they are leading North America headlong, full speed into an economic dead end alley just to have it's economic brains battered out against a brick wall.

To beat the 'Rooshins' to the Moon seems to be first and foremost in the minds of our leaders. To make a better life for us poor human critters here on 'terra firma' is only secondary. Yes, we can spend billions for space research, but we can't even spend thousands to enhance the health and happiness of our people, because people are jest people and like the feller sez, "Human critters are expendable."

Yes, siree, ain't we the good Christians?

Wimpy

The One Way Street

The invention of the steam engine by Watts in 1769 started civilization, particularly that in the Western World, on a course from which there is no turning back. In North America, due to the fact that here was a continent, peopled by a race with a nomadic primitive culture, replete with natural resources, fertile soil, equable climate, natural inland waterways, vast distances and abundant forests, which was then invaded by people of Western Europe who had a superior technology, this course was almost inevitable.

Under the domination of the political leaders of both England and America, the role cast for North America was that of an agrarian civilization, supplying food and raw materials for the growing industry of Europe. Repressive tactics of the Masters, together with the growing needs of the colonists, spurred the growth of technology here in America. The virgin soil and equable climate made it possible to produce more farm products than could be consumed at home, so the surplus sought markets, but markets were distant. This.

(Continued on Page 25)

December, 1959

The TECHNOCRAT is published quarterly by a Managing Board at 8113 S. Vermont Ave., Los Angeles 44, Calif. Entered as 2nd class matter April 12, 1938, at the post office at Los Angeles, Calif., under the act of March 3, 1879. Subscription rates: 4 issues $1.00; 12 issues $3.00.

Whole No. 192

Who Does Your Thinking For You?

The present generation is living in a uniquely dynamic social order, where innovation and change occur as a matter of course. Human beings are called upon to think as they have never been called upon before and they are not ready for that experience.

SOME definitions of MAN include the notation that he is a thinking animal. There is also the implication that man is either the only thinking animal or by far the most advanced thinker in the animal kingdom. While the last part is undoubtedly so, it is well for us to consider the probability that the significance of thinking, as an operational process in man, may be highly over-rated, that man in defining himself as a thinking animal is indulging in self-flattery. Anyway, man in his conceit likes to believe that he thinks—which for most of the people for most of the time is an exaggeration. We suggest that it would be more accurate to state that man is an animal which sometimes thinks.

Thinking is a relatively new experience in animal evolution and is far from being perfected as a biological process. It is difficult, uncertain in its effects, and often hazardous to the individual who indulges in it. It is far simpler and easier for the organism to rely upon older and time-tested means of organic response—reflexes, tropisms, instincts, conditioned responses—and, in the case of man, upon those derivatives of past doing and thinking—habits, customs, formulas and regulations.

The simple and easy methods of response produce behavior patterns which are fixed and invariable; hence, a species (or a human individual) that is governed by them becomes biologically (and socially) static. This is the fate of almost all organic species; only a few of the higher vertebrates exhibit the capacity for new and independent behavior responses. Even among humans most thinking deals with trivial and routine matters. Hence, undisturbed social communities tend to become fixed and static in their patterns. Innovations are shunned. Most historical changes in social patterns have resulted from circumstantial mixing of two or more cultural patterns resulting in adaptive compromises. Even such low-order changes have usually been accompanied by a great amount of friction and distress.

Beyond the automatic means of response inbred in the species, the individuals may *learn* distinctive responses which apply to them alone and only for the duration of their lives. Learned responses may be classified as coming from conditioning, imitation, and suggestion—the last being restricted to the human species, since it is based upon communication by means of language.

Because of the relatively high capacity for learning among human beings, it is necessary to have only an occasional act of distinctive thinking or discovery to occur for widespread advancements toward new concepts and patterns to be made. Prior to recent times, such innovations came about slowly and sporadically; and social advancement was slow. But the present generation is living in a uniquely dynamic social order, where innovation and change occur as a matter of course. Human beings are called upon to think as they have never been called upon before and they are not ready for that experience. Rather, we are eager to accept any dodge that comes handy which will relieve us of that supreme agony; but, at the same time, we want it to appear that we are actually thinking our way through life.

Someone Is Always Trying to Get You to Let Them Think for You

It happens that there are many interested parties in the society who are desirous of getting us to simulate thought patterns which will turn out to be of benefit to them. The politician, the businessman, the ecclesiastic, the crusader, the promoter—the seekers after fortune and glory—are eager for you to let them 'think' for you. They approach you with the 'power' of suggestion from

every possible angle. They appeal to your fears, your hopes, your greed, your appetites, and to that area of particular vulnerability—your vanity.

The human being is a sucker for flattery; and the more he yearns to be rated highly by his fellowmen the easier it is to flatter him. The desire to be important, or at least to be considered important, is one of the basic motivations in human behavior. The shakedown artists and proselytizers are well aware of this principle, which they use as a regular approach in their 'come on' acts. Different people may be flattered in different ways and with respect to different traits, but most conceit is based on what the mores of the community specify as important and on what the individual has been conditioned to regard as superior. The advertising crowd is particularly aggressive in playing all the angles, even to setting the subtle trap to seduce with flattery the man who is 'immune' to flattery. In this, the individual tends to be cooperative by revealing his areas of special weakness, either directly through boasting and ostentation or indirectly through emotional denunciation. For, when one is emotionally vitriolic in his denunciation of something, it is even more likely to stem from envy than from contempt.

The individual who can pass the test of what the community regards as superior in physique and personal appearance may be easily flattered in that area of his conceit. Among men, muscular strength is generally regarded as a prime virtue. In the past, the leadership of a group was often determined by contests of strength. Among women, the emphasis has usually been on what, according to the prevailing concepts, constituted beauty of physical form and features. These features are still valid bases for flattery and are widely used by those who would profit from the vanity of others, particularly by the merchandisers of clothing and the dispensers of personal services.

While natural build, strength, and beauty provide the individual with an initial advantage, and even though these be supplemented with approved skills, talents, and personality traits, they alone are not enough, so the shakedown artists tell us. They must be supported and enhanced with possessions. In fact, if you have enough possessions or possessions of the right kind (that is, the kind that is being promoted for sale at the moment), the first items are not really awfully important. Flattering a person with reference to the things he possesses or the things he should possess if he wants to be important is known as the 'snob appeal' technique. The automobile advertisers use this approach lavishly. It is 'old stuff' with the real estate brokers and style merchants.

Formerly, one's 'station in life' was of utmost importance if one were to qualify for the higher praise of one's fellowmen. Whether one was of 'gentle' or 'mean' status had nothing to do with one's disposition; it was exclusively a matter of 'ancestry'. Today, in America, 'station in life' is not treated as heavily as it is in certain parts of Europe; it is treated as more or less synonymous with wealth (except by a few snooty blue-bloods, whose fortune was acquired by piracy or some such means several generations back instead of just recently). To have a superior 'station in life,' the American must have wealth, he must have a prestige occupation, he must live in a Select neighborhood, and he must have important social connections, be a patron of the arts, and be seen at the proper social affairs. One can always be flattered with the inference that his station in life is somewhat higher than it really is. On a lower level, a janitor can be flattered with the title of 'building superintendent'.

Few Dare to Be Different

To the 'sophisticated,' flattery based on mere pride in physical appearance, skills, or possessions is for morons and low-brows. The 'educated' personage is above such mediocrity. If you would flatter him, you must approach him on the basis of his tastes. Your concurrence in the superiority of his tastes, preferably by personal imitation, is the most convincing form of flattery. His preference for a certain brand of liquor or a certain cocktail formula marks him as a 'man of distinction' in his estimation. He chooses a certain tobacco product because he has a more refined taste than the less discerning, he believes. One's taste in housing, in interior decor, in transportation, in music, in art, in clothes, in choice of companions, in sweethearts is treated as a matter of social esteem or disdain. The hucksters take advantage of this weakness. They lure certain important personages to endorse their products; then, if your tastes are 'above the ordinary,' you will want to be affiliated with these people of 'refined' tastes.

Taste is a matter of subjective preference; and only the individual knows what pleases him most. Thus, taste is as varied as individual preference; and there can be no qualitative differences between the tastes of different persons. That much can be said for the record; but, in practice, such a point of view receives little appreciation; for, tastes have

become stylized and conventionalized like almost everything else in society. If one would achieve social recognition as one of superior stature, one must exhibit tastes that 'go with' that stature. For instance, the Best People must adore champagne and despise 'dago red,' regardless of what tastes good to them. In a similar way, individual tastes in food, clothing, tobacco, transportation, spouses, theatricals, music, art, and recreation must be that which is 'accepted' by the 'class' to which one aspires.

If one is so naive as to suppose that taste is strictly an individual subjective matter, he or she is liable to be looked down upon as one with a character defect. Therefore, if one's natural tastes are not of the approved selection, one must take 'appreciation' courses which will instill in one the 'proper' tastes. That is what is known as acquiring culture. Hence, the chances are that you are told what to like and what to dislike; and it is probable that you make an effort to conform. Certain taste preferences are fashionable, and you want to be in style, don't you? In the forefront of those who are telling you what to prefer are the merchants with 'exclusive, but fashionable' products for sale.

It so happens that the individual becomes conditioned to certain tastes and dislikes at an early age, and these tend to become fixations throughout the remainder of his life; the more rigid the personality, the stronger the fixations. Consequently, smart businessmen will focus particular attention on influencing a taste for their products among the younger members of the population. They will realize that, once a person's tastes, beliefs, and habits have become fixed, any attempt to alter them will be an uphill fight. This applies to almost everyone over twenty years of age and to many who are even younger, particularly those who have lived an undisturbed life. A seeming contradiction of this principle is found in what we might call the 'dynamic fixation'—such as the habit of changing abodes every two or three years, getting a new model car every year, or keeping up with the latest style changes in clothing.

People of intelligence are above the cheap salesmanship devices of the hucksters. They know advertising propaganda when they see and hear it. They feel that their own brains are capable of making their choices for them regardless of what the mob falls for. They are free and independent thinkers; they weigh the facts carefully and arrive at intelligent answers. So they believe. And thus they kid themselves. People of intelligence, too, are hand-fed the choices they make, from the brand of cigarette they smoke to the religion they accept. Of course, if one is anywhere near as intelligent as he rates himself, his brain will see through a gimmick as flimsy as 'the thinking man's smoke.' But he will turn right around and be mantrapped by the logic of those 'twenty thousand filters' which 'protect' him from 'harmful tars and irritants'; or by the filtering effect of that 'longer cylinder of pure tobacco'. Yes, the intelligent person is a sucker for the seemingly erudite logic of semi-technical jargon which he does not understand; or, if he does understand the words and their literal connotation, he suspects no need for a man of his intelligence to secure experimental verification.

Are you a free and independent thinker?

The greater the probability is that you don't even know what constitutes thinking. 'Thinking' is a vague, generalized term, one which the experimental biologist would hesitate to use without first carefully defining it.

There are different categories of behavioristic comprehension and response among animals, and these may be treated loosely as constituting 'levels of thinking'. First of all, there is sense perception, which is conscious awareness, somewhat similar in its mechanics to a reflex. After that, comes simple association of perceptions and responses, also known as 'conditioned reflexes'; for example, the association of clouds with rain. Animals with more complex brains are capable of forming more complex associations of 'ideas', such as the association of words with things and events which are observed by the organs of perception; for instance, the words 'barking dog'. The process of making associations may be considered as a low form of thinking; that is, if one consciously concentrates attention on the process of acquiring the association. After it has become fixed, the conditioned response operates automatically and can no longer be treated as thinking. One's responses become associated with perception patterns; thus one learns to react physically to the stimuli of his sense organs.

The ability to imitate others is a 'higher level' of intelligence and serves as a basis for much of our learning. It probably constitutes the greatest portion of learning in the human animal. Thus one learns by imitation of others most of the mannerisms and concepts which govern his life. That which is learned is recorded in the nervous system

and may be 'played back' upon specific stimulus. This is known as memory and recall.

A more difficult type of thinking is that of making decisions. Where there are two or more possible responses to a given combination of circumstances and we must make a choice, we are called upon to exercise a form of thinking above that of most animals. If the choices are new to our experience and appear to us to be of essentially equal value, the decision may be very difficult—we may delay it as long as possible, or it may stymie us altogether. Or, rather than make the decision on our own, we may seek the influence of others; in other words, rather than think for ourselves, we want to be advised what to think. This may apply to making a purchase, deciding how to vote, or choosing what to believe. We often let trivial factors influence us in making important decisions rather than weigh the alternatives carefully.

The type of thinking known as 'reflection' is rated as the highest level of thinking. In reflective thinking, the individual 'shuffles through' his memory data and comes up with recombinations of ideas. Planning ahead one's activities for the day is a simple form of reflective thinking. Solving problems is another example. On rare occasions, in a population, a distinctly new idea may turn up; this is labeled 'creative thinking'.

Man has certain tools and techniques to assist him in his reflective thinking. Perhaps the most precise of these is mathematics, the language of numbers. Graphs, charts, and diagrams are also very helpful and reliable tools. A less exact device is logic. Logic uses words, which are less precise in their definition than are numbers; hence, slight deviations of definition or precision may accumulate into gross errors.

When reflective thinking is turned loose, with nothing more reliable as a working base than logic, it may wander off into the 'wild blue yonder'. This is demonstrated by the many philosophical concepts which have been 'invented' by noted thinkers since the earliest times. Thus, to mention only a few generalized examples, the records of historical thought are cluttered up with such weird notions as original sin, reincarnation, voodooism, gremlins, divine right of kings, justice, accrued values, codes of honor, property rights, taxation, morality of toil.

Reflection produces the most useful results when used in conjunction with careful observation and precise symbols in the discovery of facts. Within recent times, these factors have been coordinated into the Scientific Method. This Method has four general steps: (1) Observation of natural phenomena; (2) inductive reasoning (thinking) to formulate a hypothesis; (3) deductive reasoning to derive logical consequences of the hypothesis; and (4) verification of the deductions by further observations. The first three steps had long been used in the philosophical method; the fourth step is the distinctive step in the Scientific Method, and has been in formal use for less than 400 years. Before that, any attempt at verification was sporadic and unpremeditated as a technique.

When faced with a decision or a problem which calls for thinking, the individual tends to follow the path of least resistance in arriving at an answer. He may consult his own memory for previous examples of a similar kind and be guided by that experience. Lacking personal experience, he may consult others to learn what their experience has been. If he is an engineer, a doctor, or a lawyer, and the problem is in his professional field, he will be highly interested in 'precedents'. What have been the decisions or courses of action followed in the past?

If the answer is not readily forthcoming from precedents, the individual may abandon intelligence and play a hunch, or consult an oracle, or decide by lot. To work out an answer by thinking is usually the last resort, and it may be the most hazardous.

To decide on the basis of reason (thinking), one needs an extensive base of memory data or other references and the ability and training to evaluate the pertinent factors according to their relative significance. Even most 'experts' are weak in these qualifications. The average citizen is hopeless, except in some limited field of special interest and experience, such as automobile mechanics or housework. The absence of sufficient data (or the use of erroneous data) and the application of poor judgment may result in a grievous mistake. Hence, we are in no hurry to think our way through problems if there is an easier and safer way of arriving at a solution.

Few people are sufficiently independent and adventurous, intellectually, to make decisions or solve problems by direct application of thought processes if there is any way of finding a ready-made answer or if there is the possibility of locating someone else to do the 'thinking'. Thus, the great majority tend to accept the prevailing thought patterns pertaining to all phases of their lives, in-

cluding those pertaining to food, clothing, domicile, sex, recreation, vocation, avocation, beliefs, and social rituals.

Most 'creative' thinking of the past has been of a philosophical nature. That which could be supported with logical argumentation, appeal to the emotions, or 'possession' of occult powers was often presented as a 'truth'. As a consequence of such adventurism in thinking, many philosophical opinions have been presented, promoted, and defended—with respect to cosmology (nature of the universe), morals (personal conduct), politics (human regulation), and economics (production and distribution of goods and services). Such 'truths' were sometimes developed into ideological systems. These systems often came into conflict with each other. Hence, differences of ideological opinions have been the cause of much human controversy and distress. We are still inclined to battle over differences of opinion.

Pitfalls for the Unwary

In the realm of opinions the usual practice is to adopt a conclusion then to find arguments to support that conclusion. Such arguments may be rational, emotional, or coercive; for example, one may argue against gainful employment on Sunday from the viewpoint that a person needs one day of rest each week; that it is irreligious to work on Sunday; or that one will be punished if he does. Politicians claim that their party and candidates are the best; merchants claim that their articles are superior to others; ecclesiastics claim that theirs is the only true religion; lawmakers claim that their opinions are just. From there on, all thinking consists of selecting and presenting arguments to support the conclusion already arrived at. So eager are promoters of opinions for converts that they do not hesitate to use any form of lies or other trickery to enhance their case. This is what is known as propaganda (an effort to influence another's opinion) and incitement (an effort to influence another's action).

Who will be the American candidates for president and vice president in 1960? There you have a question on which will be expended a great deal of thinking over the next several months, most of which will be gratuitous but some of which will demand a high price. The latter is what is known as 'expert professional opinion'. As events will prove, nearly all this opinionating will be a waste of effort, while that which is proven correct will be so more as a consequence of chance than of wisdom. When one has been lucky enough to have made a correct prediction and thereby gained the reputation of being an expert, he is eligible for employment to do the thinking for multitudes who would rather have it done for them than do it themselves.

It is, of course, much to the advantage of the expert if he can succeed in creating the impression that he has clairvoyant powers or special 'insight', or that he is in a position to get his dope directly from the 'horse's mouth'. The trouble with that is, the 'expert' tends to believe his own malarky and to acquire delusion of grandeur.

Not all experts are self-confident or brazen enough to present their opinions as the products of their own thinking. They often prefer to act as middlemen between 'authoritative sources' and the public. The frequent use of reference notations and quotes by speakers and writers to enhance their pronouncements of erudition and wisdom (documentation, they call it) reveals that they are compilers rather than thinkers; that they prefer to be viewed in the bright reflected light of recognized experts than by the dim, uncertain glow of their own internal light. This is particularly true of textbook writers, professional lecturers, and journalists. Who can hold one responsible for error if one can show that he obtained it from an 'authoritative source'? Thus, it is safer for one's reputation to issue a rehash of accumulated ideas and sayings of others than to take the risks involved in attempting to present 'original creations) (which, in view of the rarity of creative thinking in the world, must turn out to be nothing more than the counterfeiting of older ideas anyway). Who is capable of doing enough personal investigation and critical analysis to produce an original treatise on any subject? Writers are, perforce, compilers and rhetoricians rather than creative thinkers.

Being a new and imperfect 'experience' in animal evolution, the phenomenon of thinking is subject to much error in its application. First, there is the error of inaccurate observation. One's senses tend to be selective in what they receive and record, and this probability of error is further enlarged by certain physiological conditions such as insobriety, fatigue, hunger, or emotional disturbance. The 'observations' of a camera or tape recorder are much more reliable. Second, one's observations are modified by subjectivism—factors of significance to the personal observer, such as emotional conditioning, past associations, beliefs, and present interests. Third, the observer will tend

to fit his observations into some memory pattern that he understands, modifying the 'facts' to fit the pattern.

It is questionable how important 'pure thinking', as such, is in human society and its evolution. Only rarely does thinking achieve an advancement in knowledge or technique. It renders its greatest service as an adjunct to problem-solving in the field of action. Other approaches to knowledge have a much higher probability of practical usefulness.

For example, there is the descriptive approach —the accurate description of things and events. This requires ability and acquired skill beyond the average capacity; for, how many people can describe accurately and honestly even the simplest things and events that they observe? Human testimony is one of the most unreliable sources of information there is. Hence, in science, observations must be repeated by a variety of observers and their descriptions checked and rechecked before they can be accepted as trustworthy. The descriptive approach to knowledge of the universe and all included phenomena is a highly essential and rewarding activity; and the more it is devoid of thinking the more likely it is to be accurate. For that reason, clear photographs are more trustworthy than verbal descriptions or even sketches of things. As society advances and more accurate observations and descriptions of things are demanded, the 'human element' is steadily being replaced with technological scanners and analyzers. Specialized machines, within limited fields of routine operations, can now make faster and more accurate 'judgments' than human 'minds'.

Another approach to knowledge is that of calculation. Calculation is secondary and supplementary to the accumulation of data. Much calculation is of a mechanical nature, requiring a sequence of recombinations of figures rather than fundamental decision-making. Whether this calculation is done by human figuring or by mechanical or electronic means is secondary; the important thing is, which can do the job fastest and most accurately? For many complicated calculations, only electronic techniques are adequate. Hence, such things as the trajectory (or orbit) of a missile, the proportions and components of a suspension bridge, the average life-expectancy of a population, or the amount of specific foods required to feed the people of an area are determined from calculation rather than from thinking.

Then, there is the statistical approach, wherein things are classified and counted. The summation and comparison of the various categories give us useful information, for example, the number of people in the population over 65 years of age; the productive capacity of refrigerator manufacturing factories; the daily periods of greatest traffic hazards per million car-miles. Once statistical information is assembled, it provides the answers to certain problems with a minimum of thinking.

Since only a few people do any thinking beyond making simple routine decisions and then in only limited amounts, it is obvious that most of our thinking is done for us. Hence, it is relevant for us to ask, whose thinking can we trust? The historical record of philosophical thinking reveals little to recommend it. Politics, economics, ethics, and morality, in their philosophical concepts, are as much a mess today as they were thousands of years ago. A great deal of it has been proven to be completely in error: most of the rest has not been tested.

How a Scientist Thinks and the Contrasts

The other type of thinking—that of science and technology—has produced astonishing results. It is responsible for all that can be regarded as social progress in the past four centuries. Scientists and technologists think in terms of facts and workability. Thinking is regarded as only part of the Scientific Method, and a subordinate part at that. The significant part is observation and experiment. The most inspired hypothesis in the world is worthless to the scientist unless it is supported by facts. The scientist discovers the facts and principles of nature; the technologist adapts them to practical use.

All around us, in almost every facet of our experience, we encounter knowledge and techniques which work. These, you will note, have been derived from science and technology. We have, thus, learned to trust this kind of knowledge. We trust it when we flip a light switch, when we press the starting button of our car, when we consult a medical doctor. On the other hand, we are confronted with an abundance of other 'knowledge' which is of a highly dubious character—political propaganda, business advertising, philosophical speculation, tips on the stock market and the horse races. You pretty well know how reliable that 'knowledge' is.

Since you are undoubtedly intelligent, at least sophisticated, you certainly want to place your faith in that which has a high probability of success. Therefore, when buying a car, for example,

you are more concerned with the mechanical and performance specifications of it than with the fluffy chatter of the salesman. You want to put your faith in facts and verifiable techniques and leave the hocus-pocus to the morons and low-brows, who don't know any better and 'deserve' no better. *They* may believe that they are important, even believe that they think; but you know that the worldly benefits that come to them are gratuities of the social order, not rewards for intelligent behavior. You also know that the present relative affluence of our society is the result of applied science, not the natural consequences of any particular form of political government, economic system or religious faith. The most casual kind of verification will substantiate that.

So, when it comes to the question of selecting a benevolent social order, you know that philosophical preaching based on the propaganda of the ages is not to be trusted. You know that the wisdom of the bankers, the merchants, the politicians, and the moralists is without substantial foundation; that its record is gory. On the other hand, you do know that the farms, the factories, the transportation and communication systems, the power lines, and the health services function much according to plan. The main trouble is, there is too much philosophy and not enough science in the design of our social order. You know that a social system based on science is the only kind of system that you can trust.

Since this is obvious to you, it will take no great exercise of the gray matter for you to figure out that the only social system yet devised which is based on science is Technocracy; that all other social systems are based on philosophy—all of them! Now that you have figured that out for yourself, you may don the smile of self-confidence, satisfied that you have made the only intelligent choice there is to make.

But you will not rest there. You know that thought must be followed by action if it is to reach fruition. So you will start out by wearing the Monad symbol of Technocracy. For, though you cannot expect people of lesser intelligence to figure out things for themselves, you know that they are capable of imitating other who can think. This is particularly true at the times when their old faiths get jolted by events; and events are getting very bumpy right now. Hence, you will want to give them something worthwhile to imitate, knowing that social change depends upon faithful followers as well as intelligent leaders.

—Wilton Ivie

The Scientist Reacts

Princeton, N. J., Oct. 13, Wall Street Journal —Scientists aren't always brooding over ways to build better mousetraps. Lots of them are unhappy about company management.

As a general rule, industry loves the scientist and the engineer. He is apt to be among the most coddled men on the company payroll. Yet he is apt to be one of the most unhappy. He expresses more dissatisfaction about his job than salesmen or supervisors.

He complains that his boss too often measures results in dollars, has too little depth of knowledge, strives for power over people, over simplifies problems, manipulates people for his own purposes and is too concerned with short-range results.

This is what Opinion Research Corp. of Princeton found when it surveyed 622 scientists and engineers and 105 managers of six corporations, each a big name in its respective field—aircraft, chemicals, drugs, electrical equipment and electronics, petroleum and rubber. Half of these technicians hold advanced degrees, a third have doctorates, and many are rated by their managers as "presently or potentially most valuable" of their companies' scientific personnel. . . .

. . . Some of the 'most valuable' scientists were quite vocal. "I have seen nobody in top management who is capable of grasping an abstract idea," one scientist stated. Another criticized: "Top management only knows what they are told and are often only told what they want to hear. . . .

. . . "The company only pays lip service to the idea that a scientist can advance in stature, pay, recogniton and prestige without getting into administrative work," one scientist charges. . . .

Employment Figures You Rarely See

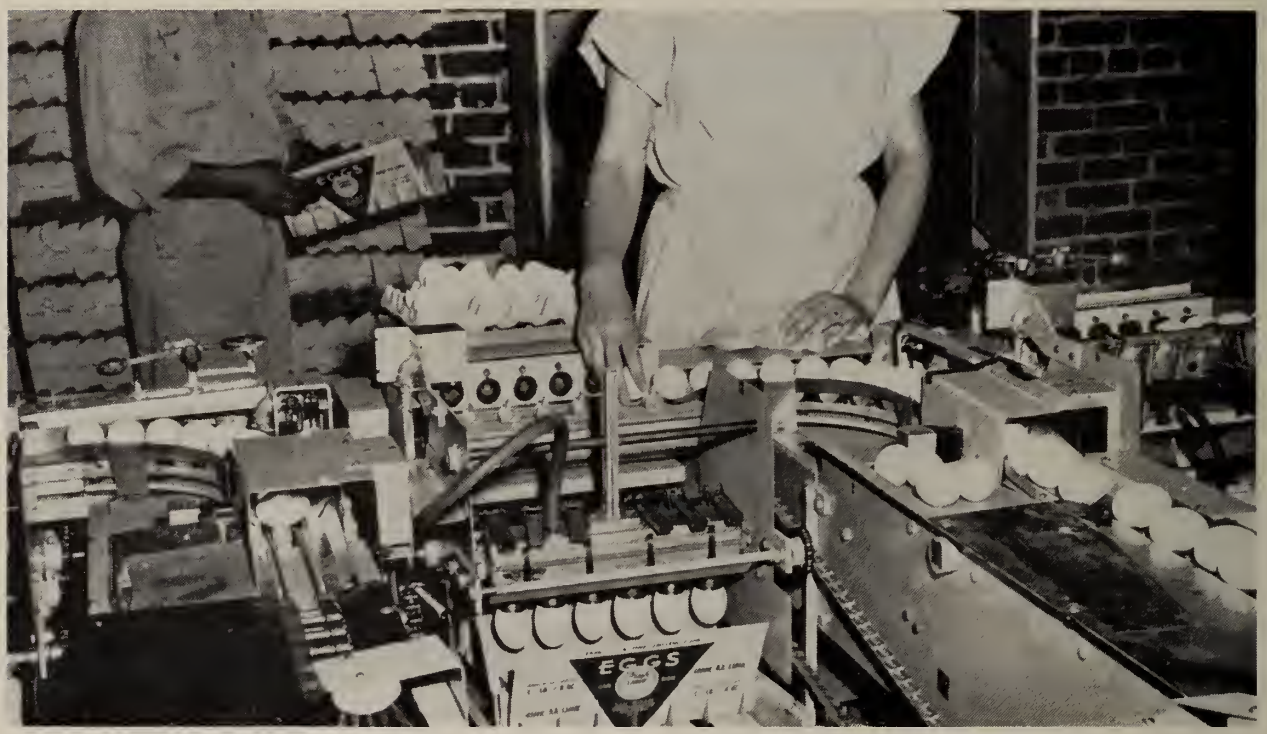
Less than 1% of the business firms in the United States employ nearly 60% of all paid workers, the Commerce Dept. reported. These firms include all those with 100 employees or more.

By contrast, 60 percent of all business had fewer than four employees. However, these accounted for only 6½% of total employment.

Long Beach Telegram, Sept. 24

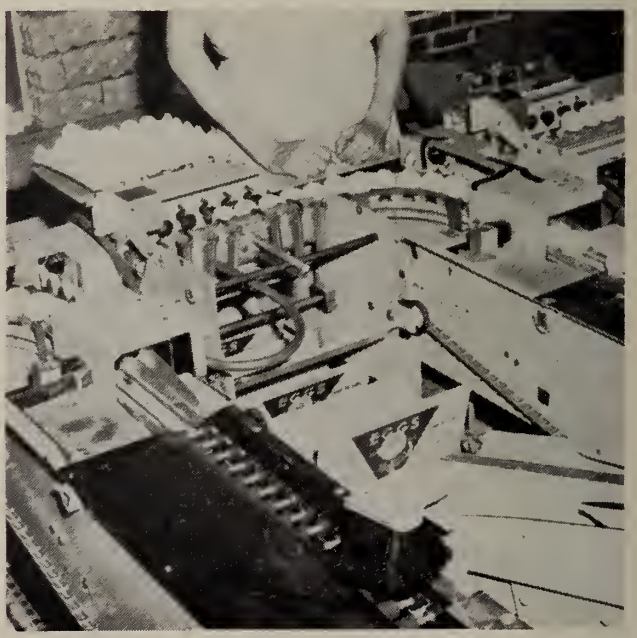
An Automatic Egg Line

Developed By the Agricultural Marketing Service



Newly developed AMS grading and packing line cartons graded eggs at a rate of 7,200 eggs on hour.

Eggs are removed from cases 30 ot a time. They are placed directly on conveyor-flash candler.



Properly positioned eggs move in single file to the transfer unit where they will be cartoned.

Around this corner, eggs are picked up—6 at a time—and placed in awaiting consumer cartons.

Lug-equipped conveyor belts position cartons.

An automatic grading and packing line capable of cartoning graded eggs at a rate of 7,200 eggs an hour has been developed by research specialists in the agricultural service.

Handling consistently fine quality eggs, two workers can operate the machine at near top capacity.

The improved egg grading and packing line incorporates the newly developed electronic bloodspot detector with the latest in AMS egg handling equipment.

Ungraded eggs are first examined for dirty or cracked shells as they pass over a specially lit conveyor. Eggs containing bloodspots are removed automatically by the electronic detector. Clear eggs move onto a line of scales where they are individually weighed and channeled to the packaging unit.

The packaging units are a unique feature of the assembly line. They automatically position the eggs with the small ends down. (For quality reasons, eggs must be packaged in this position.)

Properly aligned on the conveyor, the eggs continue to a vacuum transfer unit which grasps six eggs at a time and places them in an awaiting carton. Cartons are belt positioned from an automatic dispenser.

A system of switches and cams controls packaging operations and times movement of eggs and cartons.

Automatic packaging appears to be the key to maximum efficiency in egg grading and handling. But, like any new piece of equipment, it will not prove the answer to all egg handling problems.

Farm Mechanization. Information culled from the Wall Street Journal article on Sept. 22. Bragging of our great superiority over Russia it really gives a thoughtful reader some of the reasons why our farm population is declining and our productivity is increasing. John Deere Co. has a 10 ton tractor, hinged in the middle to increase its maneuverability which will pull a 3 ton cultivator across the field at a 19 acre per hour rate.

J. I. Case Co. is building a self-propelled combine that cuts an 18 foot swath which will cut the time required to harvest an acre of wheat to approximately 6 to 8 minutes.

International Harvester Co. announced a new four-row cotton picker which will also husk and shell the corn in the field.

Oliver Corp. announced a new hay baler which will scoop up and bind about 20 tons an hour.

New Holland Machine Co. recently introduced a large forage harvester which will chop up 45 tons of corn or hay per hour as against 22 tons for their next largest unit.

Minneapolis-Moline Co. has readied a six row corn planter.

RESEARCH BULLETIN

'Farmer' Says Give Wheat Away

Toronto (CP), Oct. 30, 1959—Thomas D. Campbell, the largest wheat grower in the United States, says the U. S. "should give away its surplus wheat and start again from the beginning." He says it is costing $1,000,000,000 to store the surplus and this money isn't going to the farmers.

The free wheat could be given to destitute countries which do not now buy wheat so that there would not be charges of dumping. Mr. Campbell said in an interview that India and China could take the entire U. S. surplus in one year.

Comment: All that the 'largest wheat grower in the United States' wants is an unlimited market for wheat and big profits for the wheat grower. No mention is made of seeking balanced load production and distribution of wheat. No concern is voiced over the subsidization of over-population in foreign countries through the dumping of food surpluses. No remorse is felt over charging the loss to the public. 'Give me a big payoff and to hell with everybody else'—that is the Price System way.

Electronics Business Screaming for 'Protection'

Washington, Oct. 1, 1959—The United States government will launch an investigation into charges that imports of transistors and related products impair the nation's defense potential. The Electronic Industries Association requested the investigation, charging that imports of Japanese transistors and other semi-conductor products could have serious consequences in case of war. The organization contends that the Japanese industry has been growing at an alarming rate in recent years. Some 60 per cent of its transistor production is scheduled for Unitted States markets this year, the association says. Japanese transistors sell here for 80 cents or less, compared with about $1.35 for the American transistor.

Comment: This is an example of American businessmen screaming to be subsidized by the government, at public expense, when they are no longer able to chisel high profits in competition with foreign producers. They want the government to help them collect excessive prices from the American consumers for their own private gain. The harping on 'national defense' is just so much malarky, used to blackmail the government and to frighten and confuse the public. If transistor production is so essential to 'defense' as these businessmen claim, then it should be taken over and operated by the government, not trusted to private enterprise which knows no loyalty beyond monetary gain.

Soviets Gaining Over West in Machine Tool Production

The Soviet Union has begun to produce some machine tools more cheaply and quickly than the West, an American researcher, Seymour Melman, Associate Professor of Industrial Management and Engineering at Columbia University, reported in an interview after a comparative study of the machinery-producing industries of the United States, Western Europe, and the Soviet Union. On the tour of three Soviet plants, Professor Melman reported, he saw machine tools being turned out with less than half the man-hours required in comparable Western operations. The Columbia professor visited the Krasny Proletary and Ordzhonikidze plants of Moscow and the Sverdlov plant of Leningrad.

Professor Melman said the Krasny Proletary factory produced a standardized sixteen-inch lathe at the rate of one every fifteen minutes. This compares with Western plant production of lots of ten or twenty on special order, he said. The Russians spend 200 man-hours on this item compared with 600 to 800 man-hours in a West Euro-

pean plant. The Soviet list price of 14,000 rubles ($3,500 at the official rate) compares with $3,800 in Western Europe and $10,000 in the United States. The professor said the Soviet production line employed such mass production equipment as the transfer machine, a collection of machine tools linked together by a power conveyor. He said he also saw an automatic line of gear-making machines. Professor Melman said he did not know of any cases where similar equipment was utilized in Western machine-tool production.

At the Ordzhonikidze plant, transfer machines are being produced at the rate of fifty units per month and multiple spindle automatic lathes at the rate of twenty to thirty per monh, Professor Melman reported. He said he knew of no such sustained large production in the West.

The Sverdlov factory, which specializes in the manufacture of large boring, planing and milling machines, produces as a specialty on a continuous basis a large horizontal borer. Professor Melman said one of these horizontal borers was completed each working day with an expenditure of about 2,000 man-hours of labor. He said the man-hours expended in the West, where the machine is produced in small batches was twice the Soviet rate.

—New York Times, Oct. 26, 1959

Electric Utilities Hoodwink the Public

An advertisement appearing in numerous newspapers and periodicals during October, sponsored by 'America's Independent Electric Light and Power Companies' shows a picture of Brownlee Dam on the Snake River and carries the title: 'How to Save Taxpayers a Half-Billion Dollars.' The advertisement states further:

"Brownlee Dam is *saving* money for you and other U. S. taxpayers, because it was built by an independent power company instead of by the federal government. Brownlee and its two companion dams, in fact, will pay about $150,000,000 in federal taxes over a 25-year period, *plus* about $100,000,000 in taxes to states and local communities.

"But this power project *almost* cost taxpayers a half-billion dollars because of the pressure groups that constantly promote federal government electricity. They tried for eight years to make the government build this project with a half-billion dollars of taxpayers' money. . . .

"Remember this difference the next time you hear somebody beating the drums for more federal government power systems. When they win —*you* lose."

Comment: Let us overlook the dubious nature of the promise, '*will pay about* $150,000,000 . . . plus *about* $100,000,000 in taxes . . . over a 25-year period.' And let us not argue with the figure of 'a half-billion dollars' given for the alleged cost of the federal project. The important thing is, the Electric Utility combine which owns the Brownlee Dam (incorporated in New Hampshire, with offices in New York City) will take from the consumer, first, all that is paid back in taxes, all that is paid for the cost of building and operating the production facilities, all the lush salaries and operating costs of the business, all the advertisement costs, plus handsome profits for the investors. And they have messed up the Snake River for water transportation.

If the government had built the project on the Snake River, instead of the utility combine, the public would have been far ahead financially and otherwise. The sale of the electrical power by the government would pay into the public treasury the full cost of the project plus hundreds of millions in additional profits. The 'overhead' costs would be minimal compared to those of the utility combine. There would be no huge advertising bill. There would be no kick-backs to private enterprise for 'flood control' and 'defense uses' of the installation. At the same time, the consumer would pay a great deal less for his electricity from the Snake River power stations.

As it is, the Snake River project will have to be done over in the near future—in accordance with Technocracy's specifications—to include, among other things, deep-water transportation up the river beyond Weiser, Idaho.

May we suggest that 'America's Independent Electric Light and Power Companies' be investigated for deceptive advertising.

COVER FOR THIS ISSUE

A heavy duty industrial tractor in use at the Beckett Paper Co., Hamilton, Ohio, equipped with Barret Guide-O-Matic contrals. No human driver is required to guide the vehicle alang its path. It starts and stops automatically and will not deviate. At canstant speeds, and with no human driver required, it is safer than manual driven types.

BACK COVER

The authar of this poem was the late Garth Bentley who was Personnel Manager for a large Eastern corporation. It is printed by permission of the San Francisca Evening Lamp.

What Helps Business Does Not Help You

The squeeze is really on the consumer. It should become obvious to everybody that private enterprise cannot help or make any contribution to our national well-being.

THE old slogan of 'What Helps Business Helps You or the Country' has become an accepted cliche by many Americans. It has been used by most leaders in financial and business circles as an expression to defend the chiseling practices of private enterprise. The line of reasoning behind such a slogan seems to be that if we leave everything to business enterprise, everything will be all right. Whenever the system of 'free enterprise' is on the verge of tottering, that is when the catch phrases and slogans praising private enterprise become most boisterous. And here of late the noise about the 'greatness' of business enterprise has not only reached its highest pitch, but it is increasing with greater intensity. If business is so secure in its position, why does it have to 'sell' the public on its 'effectiveness'? One might wonder whether business is concerned with the welfare of this country or merely with its own perpetuation.

While most Americans in the past have accepted the idea that what helps business helps the country, since 1929 there has been a growing doubt on the part of many Americans that the business approach can solve any of our social and economic problems in our present technological age. It was a bitter pill for business enterprise to swallow when it became evident in 1929 that business did not have the answer to the many social ills that were confronting the nation at the time. As long as there is not a depression of the highest magnitude, it is possible for private enterprise to make the public think that there are boom times. Up to 1929, it was possible for business enterprise to hoodwink the American people into believing that prosperity was synonomous with free enterprise success, in spite of the fact that millions of Americans were living in abject poverty. While business enterprise pretends that it resents the 'interference' of the federal governmnt in the affairs of the country, it has been only through an underwriting program by the government that private enterprise has been the biggest recipient of government handouts and giveaways. Without this government support, private enterprise could not stand on its own feet. Under such circumstances, how is it possible for business enterprise ever to help this country when it cannot even help itself?

Obostacles in the Way

If we will take the time to analyze the inner workings of private enterprise, we will find that business is an obstacle in the way of progress and in the advancement of the nation's welfare. The theory behind an economy operating under private enterprise to maintain maximum profits and to without any regard to the consumer. Any business is primarily concerned with making the highest possible profit, and the distribution of goods and services becomes incidental in the process. It is the purpose of business to maintain a high commodity value or a high price on the sale of goods and services, and to obtain the highest possible margin. If this cannot be done by creating an artificial scarcity, it is done through the volume production of obsolescence or a shoddy product that will wear out in a short time. Conspicuous waste has been one of the methods used by private enterprise to maintain maximum profis and to perpetuate itself. While it is good business to destroy and deplete our natural resources at a prolific rate, it is this inherent operating characteristic of private enterprise that is rapidly making our country a have-not nation. One of the first lessons we must learn is that private or business enterprise and its method of operation is detrimental to the general welfare of the country.

Once we understand business enterprise, we will realize that it is a most inefficient method of operating a social complex. Under private enterprise there is an endless amount of duplication and a complete lack of standardization. The distribution of goods and services under free enterprise by thousands of small businesses engaged in the same kind of endeavor is an example of what

is meant by duplication. Witness the number of establishments that are selling the same products or services in your own community, and the number of businesses that deliver the same products from door to door. If this duplication was reduced to a minimum by operating the economy on a 'bulk' basis instead of the present individual-picayunish approach, it would be possible to conserve our mineral and energy resources, and to reduce the man-hours of human labor to one-third of the present average work-week. But under private enterprise it is highly profitable to operate the system as inefficiently as possible and to have a large part of the labor force engaged in superfluous tasks.

As for standardization, it is almost impossible to purchase a part or a unit that can be interchanged on a machine used for the same purpose but of a different brand. The same situation pertains not only to machines, but to almost every item that is used for commercial or domestic purposes. In many cases, it takes more energy resources to order or obtain a part or unit than it takes in energy to produce such an item. Business enterprise intentionally designs products that will wear out. And whenever a replacement is necessary the consumer must buy a new unit even though the buyer may need to replace only a component part. For the sake of profit, private enterprise designs and manufactures an unlimited number of similar products when a limited number would perform the same function or purpose. Usually this is done by adding an irrelevant feature or through ostentatious adornment of a product. If business enterprise is to perpetuate itself, it cannot produce products that would be highly efficient and serve a useful function in society.

While there have been many scientific and technological innovations in this country that could have been beneficial to the general welfare, private enterprise has either withheld these inventions away from improving our standard of living or diverted them into profitable business ventures. There has been very little progress or development in the efficiency of the numerous mechanical devices which have been introduced in the United States since the invention of the steam engine. There have been great strides made in the application of technological methods to industrial production, but the goods and products produced by this technology has been of an inferior quality. The automobile is one of the best examples of how business enterprise has misdirected our technology into the production of a highly inefficient and profit-making gadget, and away from improving its efficiency and its function in our present high-energy civilization. While it would be to the best interest of the nation to design and produce an automobile with as few moving parts as possible and of a high efficiency ratio to do a function within our present society, we cannot expect priviate enterprise to produce an efficient high quality product as long as it is profitable to indulge in conspicuous waste. As long as there is private enterprise our science and technology will be sabotaged for the sake of profits instead of for the betterment of society.

In spite of the number of mergers that are taking place in the United States, we are still a nation of small shops and service establishments. Because of the acceleration in the use of technological automation, which has brought about an increasing rate in the displacement of productive workers, the 'white collar', the government, and the workers in the various services or non-productive workers now constitute the greater number of all workers employed in the United States. This trend has created a dilemma for a system based or geared to an objective of making a profit. In the first place, there are too many workers engaged in selling intangibles that add nothing to the material welfare of the nation or its people. All of these parasitic rackets are the outgrowth of the concepts of ownership or private enterprise. The main trouble in this trend of more and more non-productive workers is that there are fewer and fewer productive workers with the purchasing power to indulge in the consumption of intangibles and needless services. Instead of helping the consumer, the increasing number of non-productive workers has added to the already high cost of buying necessities. And the increasing number of government workers (politicians, contract, and the armed forces) has increased the taxes and reduced the take home pay of every American worker. The squeeze is really on the consumer. It should become obvious to everybody that private enterprise cannot help or make any contribution to our national well being. (There is very little profit in each person taking in each other's washing; and profits are the main objective of business enterprise).

Greatest Failure Is Distribution

One of the most significant indictments of free enterprise is its inability to distribute the abundance our technology can produce. If the free

enterprise way is the best system ever devised, why can't its method of operation distribute our abundance? If it can claim that private enterprise is responsible for producing abundance, why can't business enterprise take the responsibility for not being able to distribute our abundance? What good is it to produce abundance if a system cannot distribute it to its people? The question answers itself. The fact that private enterprise cannot distribute abundance should wake up the American consumer that the primary concern of business enterprise is maintaining scarcity and high commodity valuation. While millions of Americans are living at subsistent levels and millons are on direct relief, the government is subsidizing private enterprise and storing 'surpluses' for the purpose of keeping prices at a high level. Instead of distributing these surpluses to the consumer, the government under free enterprise is carrying on research to find a way to prevent these commodities from deteriorating. In order to maintain itself the Price System must store, dump, plow under, curtail acreage or give away our abundance to foreign nations; but to put this abundance upon the market would mean the end of private enterprise. Abundance cannot be sold, it must be distributed without a price tag. This is why we will never have an abundance as long as we have a Price System. What helps business and maintains high prices (at your expense) does not help the consumer or the welfare of the country.

Another obvious characteristic of private enterprise is its complete lack of any constructive program. Every program carried out under private enterprise is geared to maximum profits and not to the reconstruction of our country. Any program that is put into effect by the government must not interfere or conflict with the interests of business enterprise. It is all right for the government to spend billions of dollars on atomic energy or missiles, but it cannot spend billions of dollars on the development of a renewable source of energy which would conflict with those private interests that are producing and selling our irreplaceable sources of energy such as oil, gas and coal. While peace among nations would be beneficial to all nations of the world, private enterprise must have a 'cold war' or continue to create international tensions if it is to continue to operate for any period of time. It is good business to keep the 'cold war' going and to create incidents in various parts of the world in order to 'sell' the American people on the idea that huge 'defense' expenditures are necessary. In this way private enterprise can prevent anything ever being done for the general welfare of the people and continue to maintain the status quo.

In the past it has been possible for vested interests to prevent a depression or collapse by involving the United States in a war. While it has been profitable to become involved in a war in the past, the changes in warfare during the time since World War II does not present the same 'opportunity' for private enterprise. Peace or war would be most unprofitable and disastrous to private enterprise with today's methods of warfare. A short war would not be profitable. As it stands today and in the future, a 'cold war' is far more profitable than a 'hot war'. The survival and the continuation of private enterprise depends upon maintaining a war economy and the destructive use of our natural resources. But the survival of this nation and the North American Continent depends upon reconstruction of our entire social operation and the most efficient consumption of our remaining resources. It is a sad situation when a nation, which could set the greatest example for peace and abundance in the world, has to devote it resources, technology, and scientific personnel to destructive instead of constructive purposes.

Capitalizing Calamity

From a social point of view, it would be in the best interests of the country to have the highest possible state of health among all of its people. Even with the many advancements in medical science, the United States is a long way from preventing and eliminating the major diseases that take a heavy toll in crippling and death every year. As long as private enterprise predominates, our country will never prevent or eliminate the cause of disease. For one thing, there are too many businesses dependent upon sickness and death for their very existence. The medical profession is concerned with treating the sick for a profit and not with the cause for the prevention of diseases. The processors and the distributors of pharmaceutical products are engaged in a business of selling their products at a highest possible profit. And there are numerous organizations and insurance companies involved in the racket of selling 'plans' to cover accident, sickness, and death. Even long life would not be good business for the undertaker and florist. One can readily understand why it is impossible to have a high

standard of health with private enterprise in control of our economy. We must also remember that it is private enterprise and the environment it has created or produced which is responsible for the disease-breeding conditions of our nation. It is only when we eliminate the present environment, which depends upon the prevalence of disease in profitable amounts, before we can have a high standard of public health.

Just what has happened to that imponderable, incentive, that we hear so much about under a system of free enterprise? What is the percentage in 'getting ahead' or getting involved in the 'rat race'? The Joneses are all in the same boat, struggling to make ends meet. Everything that most of us receive in income is paid out for the necessities of life. And any increases in income are absorbed in higher taxes and higher prices. (The devaluation of the dollar since 1939 has declined to where the dollar is now a fifty cent piece). If you are fortunate to receive sufficient income to invest in bonds, stocks or annuities, it will be only a matter of time before 'inflation' wipes out the interest to be received from these investments and most of the value of the original investment. As time goes by, there will be more and more inflation. We must realize that inflation cannot exist when there is an abundance or surplus of things as there is now unless it is artificially created by private enterprise in collusion with the political administrators. The fondest hopes and dreams of every American to become a chiseler and to join the elite has been shattered. And the foremost selling point of free enterprise has run out of gas.

There are still a great many people who think private enterprise has made the United States a great country. Regardless of the conditions that exist at the present, they are willing to stay with the ship of business enterprise even if it sinks. It has never occurred to most Americans that free enterprise is responsible for the state that this country finds itself in today. Before you praise private enterprise, you should ask yourself the following questions: How many booms and busts have there been under business enterprise; how many wars and brink of wars have we had under private enterprise; how many millionaires have been made by the sweat, blood, and tears of Americans in time of 'peace' and war; how many Americans have died on foreign soil to make the world safe for 'democracy' and free enterprise; how many Americans have gone in want and lived in poverty while pigs have been killed and crops destroyed; and what else could have wasted and destroyed our American heritage at a faster rate than this 'great' system of private enterprise? These are searching and profound questions that every intelligent American should ask himself before he gives lip service to the slogan 'What Helps Business Helps You'.

As Americans, and for America, we owe nothing to private enterprise. If a system cannot produce for its people, it does not deserve to exist. As for greatness, there are no limits as to how far this country can go to improve our standard of living and increase the efficiency of our social mechanism. With the abundance our technology can produce, there is no reason why 'security' should not be taken for granted as is day and night. The promoters of private enterprise argue that any change in the present social operations would result in socialism or communism. They have tried to create a bugaboo in order to prevent any social change. But it is the pressure of events which have been brought about by technological advancement that is forcing a new order upon this country and the North American Continent. Private enterprise, socialism, communism and fascism cannot operate the high-energy civilzation of the North American Continent. Technocracy's design for the application of science to the entire social complex of this Continent is the only idea that is in accord with the technological magnitude of our present interdependent society. Technocracy's objective is geared to distribute our technological abundance for the welfare of all Americans and without a price tag or at a profit. (This can be done by computing the cost of production and distribution of goods and services on an energy basis. For further information read *The Energy Certificate*). The end-products attained by applying science to our high-energy mechanism will be: (1) A high physical standard of living, (2) a high standard of public health, (3) a minimum of unnecessary labor, (4) a minimum wastage of non-replaceable resources, and (5 an educational system to train the entire younger generation indiscriminately with respect to other than inherent ability. Only by the installaion of a New America of Technological Abundance with Services from All and Profits to None can we help this Continent to help every American.

—Clyde Wilson

There Ought to Be a Law

Dear Senator:

I see where the Russians have landed a rocket on the moon ahead of us and they have got the first pictures of the other side of the moon and are giving all the mountains and craters on that side Russian names. There is also a rumor that they are going to send some men to the moon before too long. From what I can gather this sort of messes things up for us, because a few years ago our people were talking of getting to the moon first and claiming it for the United States and using it as a base to bomb the Russians from. I think I saw a movie on it once. It was considered awfully important because, so they said, whoever got to the moon first would be able to rule the world. Now that the Russians are getting there first, it seems we will have to make an agonizing reappraisal of the situation, as Mr. Dulles would say.

However, I think we can save the day for America if you will pass a law making the moon a free territory for everybody who wants to go there and to make it unlawful for anybody to set up a rocket bombing base there. In that way, people can go up to the moon and roam around and take pictures, but they can't own any property. It would be something like they have in Antarctica already. I think that is better than having the Russians owning the moon; and it is the next best thing to our people getting there first and claiming it for America.

Sincerely yours,
BEETAL BRAYNE

P.S. Is it true that we are ahead of the Russians in ICBM's like some of our officials claim? It seems to me if they can hit a spot on the moon they should be able to hit a spot on the earth just as easy. I wish you would look into this and let me know, because it would be too bad for us if we got into a war with the Russians and found they were looking down our throats with atomic rockets that would really work while we were still trying to put one together that would go somewhere near where we wanted it to go, maybe.

Some Reflections on Science and Society

The higher form of animals, including ourselves, have been extensively studied by experimental psychologists who have shown that certain basic biological drives motivate behavior, including efforts to learn new things. The primary motivations were believed to be hunger, thirst, and sex, and the drive to avoid pain and unpleasant situations. These drives to action are important factors in moving us to seek some goals and to avoid others.

Scientific Activity as a Biological Phenomenon

In recent years, however, psychologists have found from studies of animals, particularly monkeys, that one of the most fundamental of all motivating factors in behavior is curiosity. This is a biological characteristic of most animals, particularly mammals. For example, Robert Butler found that monkeys enclosed in a dimly lighted box would press a lever to open and reopen a window for hours on end, and for no reward other than a chance to look out. The rate of lever pressing depended on what the monkey saw through the open window. The sight of another monkey or of a moving toy train elicited far more window opening than did an empty room or even a bowl of food in the room when the monkey was hungry. Three day-old monkeys, barely able to walk, will crawl across the floor of a box to reach a lever which briefly opens the window so they can peer out; some press the lever hundreds of times within

a few hours. This high level of curiosity is deeply innate. It was found that monkeys will struggle for days to solve mechanical puzzles, and having learned the solution will repeat the successful manipulations over and over again with no reward other than the apparent satisfaction of doing it. There is good evidence from well-controlled experiments that the drive to explore for its own sake is a primary basic reason for learning. This is especially marked in young animals and children, quite aside from the seeking of food rewards or escaping from painful situations.

Scientists are people highly motivated to open windows on the world, and to solve puzzles. The satisfaction of genuine discovery is a most rewarding experience. Quite independently of monetary returns or other forms of personal recognition, these satisfactions are deeply rooted biologically and are perhaps the principal basis for the dominant position of the primates — monkeys, apes, and men — among the vertebrate animals. The more highly developed the brain among animals, the more pronounced the animal's curiosity and the more able it is to learn increasingly difficult tasks. Man's great cerebral cortex gives him a top billing among the animals in this hierarchy of achievements. The satisfaction of curiosity has had great survival value through natural selection over millions of years of evolution.

The drive to make sense of the world around us is a very deep one inherited from our subhuman ancestors. Appropriate responses to the environments are, of course, a prerequisite for survival. Those animals with sufficiently well-developed nervous systems, able to perceive themselves in relation to configurations of changing events around them, are best fitted to fight or escape from environmental threats or to modify the threats in such a way as to render them innocuous. The ability to form meaningful configurations that encompass large segments of the environment is a property of the more highly developed brains, and a good case can be made for the view that man's concern with science, philosophy, political ideologies and theologies are a reflection of a basic property of his nervous system to integrate extensive configurations relating himself to the universe.

Psychologists of the Gestalt school have helped illuminate this property of the nervous system. Studies of learning are of interest here, particularly in relation to the phenomenon of insight which refers to the fact that novel, puzzling situations, at first devoid of meaning, suddenly come to make sense. This sudden precipitation of significance out of a puzzle has sometimes been called the "a-ha phenomenon," and experiencing of "a-ha, that's it" associated with the clothing of a situation with meaning is emotionally very satisfying, and is the major charm of scientific research and of artistic creation, as well as in the solution of crossword puzzles. The "a-ha" phenomenon with its emotional charge can be though of as a kind of revelation, although not necessarily one corresponding to reality. At an emotional level it seems to me to be the essence of what is called the religious experience. The basic phenomenon of revelation can also be demonstrated in animals. It is not at all exclusive to the convert, to the prophet, or to Shakespeare, or to an Einstein. Let me give examples. Wolfgang Kohler put a very hungry chimpanzee in a cage with a banana out of reach behind bars. A stick was also put in the cage. After various attempts to reach the banana by hand or to break out of the cage, the chimpanzee suddenly grasped the situation, picked up the stick, and fished the banana within reach of his hand. It happened all at once: the problem was solved by a flash of insight — by the closure of a meaningful configuration of patterned messages in the brain — the relation of the stick to the banana was perceived. A chimpanzee could do this also if two sticks were put in the cage, neither one of which alone would reach the banana. But if the sticks could be put together, joined fishpole fashion, to make a long one, this would be done suddenly and effectively by the brighter apes, and the banana retrieved. Again Kohler hung a banana from the ceiling of a room, out of reach of the chimp. Several boxes were distributed around the room and, after a time, the ape suddenly solved the problem by piling one box on another, climbing swiftly up before his architectural achievement could collapse, and grabbing the banana. This sort of problem is approximately the level of difficulty that can be solved by a normal three- or four-year-old child.

Science and Values

One of the greatest discoveries that has ever been made, and repeatedly confirmed in the last three hundred years, is that able people with disciplined imaginations if allowed to pursue honest inquiries into things that deeply interested them, yield returns to mankind of great practical value as by-products of the satisfaction of their curiosity. Such investigations by trained experts into the

phenomena of nature constitute the basic sciences, and from fundamental discoveries in physics, chemistry, and biology, most of the important technological and medical advances have come. These advances in science have profoundly changed human societies over the last three centuries.

Quite aside from the social justification of science in terms of its contributions to technology and medicine, there is a basic underlying assumption that science is concerned with discovering truth, and the separation of the true from the false, and that truth is intrinsically good. The idea that truth makes men free is an article of faith of most civilized people and is a fundamental tenet of those concerned with liberal education.

When our founding fathers produced our Constitution and Bill of Rights, there was general consensus as to views about the nature of man in terms of doctrines based upon Judaic-Christian traditions. While there were many religious sects in eighteenth-century America, there were commonly accepted assumptions and a philosophy about the nature of man which gave special significance and meaning to aspirations about life, liberty, and the pursuit of happiness. This unifying eighteenth-century philosophy and the nineteenth-century faith in progress have, to a considerable degree, been dissipated, especially among the intellectuals. The last hundred years have produced discoveries with impacts upon society that have modified man's view of himself and the world he lives in.

As we enter the nuclear age our very survival is threatened. Competing codes of conduct and conflicting emotionally charged ideologies have made constructive co-operation among nations, and groups within nations, increasingly difficult. The role of reason in dealing with public and private hostilities and insecurities is repeatedly debased by rabid nationalism, deadlocked ideologies, and drives by pressure groups for their special short sighted and selfish ends—ends that are in marked conflict with the common good. We have become increasingly aware that rational belief is often of little importance in determining action in comparison to irrational motivations that are for the most part unconscious. Freud and others have brought the role of the irrational sharply into focus.

Man's intelligence, a product of the evolution of his enlarged cerebral cortex, is his most unusual feature among the animals. It has made possible many achievements, including nuclear missiles. But his basic emotional organization has apparently evolved little in the past half million years and this is borne out by comparative neuroanatomy and physiology. Our ability to live with our fellows has not improved, while our extension of knowledge and control of natural forces have increased prodigiously. Unless we learn to handle our aggressions more intelligently, our great cerebral cortexes that have produced nuclear weapons may turn out to be a sort of phylogenetic tumor bringing about our elimination as a species. After all, hundreds of species have perished in the course of evolution for every one that is here today.

All knowledge in itself is ethically neutral. The uses of scientific discoveries are seldom controlled by those making them. It is the citizen as consumer, business man, politician, or physician who controls their social impact. Major contributions of science and technology often carry with them dangerous and quite unforseen social consequences. Examples of the ambivalence of technological advances readily come to mind. Thus, rapid communications and travel have brought people closer together but also enhanced their control by dictators and propagandists for special interests. The automobile has shortened distances and proved a great convenience, but we have nearly 40,000 traffic deaths annually and it has contributed to juvenile delinquency and crime. Drugs, conditioning, and neurosurgical procedures that modify drives, imagination, and personality have great value in treating some of the mentally ill; but the widespread general use of tranquilizers and the use of brain-washing by dictators may have grave consequences for the values inherent in the dignity of the individual.

We believe we must tolerate arms races and radioactive fallout with its damage to genes and soma for the precarious security that nuclear weapons brings us as a deterrent to war. Advances in medicine and public health have enormously accelerated in recent years, and as a consequence increases in life span with birthrates remaining constant or increasing have brought an unprecedented explosive growth of populations. This is especially so in countries least able to support their populations, and there is much controversy as to what to do about it. Automation is displacing workers while population increases, thus creating more job seekers. A new minority group of people over 60, for the most part unemployed, is raising many issues.

Another long-range problem of human biology is that of the elimination of natural selection by

advances in medical treatment and care. This is slowly increasing our burden of defective genes from generation to generation. In contrast to Darwinian views, those of present-day neo-Darwinians deny that natural selection necessarily makes for progress. Biologists now know enough about the mechanisms of heredity to improve, not only domestic plants and animals, but man as well. To date no national group has seriously considered the direction of human evolution for purposes of human improvement.

Problems arising from advances in science and technology are seldom met by scientific solutions. When the problems are not simply ignored, emotionally charged group interests and irrational prejudices of a personal, political, or religious nature are customarily brought to bear. Ultimate compromise may be reached, but often with little regard for the common good or stability of the solution in relation to the future.

Rational Values and the Ethics of Science

As pointed out, man has a powerful biological drive to make unifying sense of himself and the world he lives in. Religion, philosophy, the arts, and sciences are all concerned with attempts to do this. Science is a widely disseminated set of techniques for making meaningful configurations of limited aspects of experience. Its language and operational procedures know no national or racial boundaries. Does science per se have a professional ethics in its concern for truth, which if extended more broadly to human relations might substantially contribute to a better life quite aside from the technological and medical by-products of science? Anatol Rapoport has pointed out that the ethical principles inherent in scientific practice are the conviction that there exists objective truth and rules for discovering it. Moreover, on the basis of objective truth unanimity is both possible and desirable. But this unanimity must be achieved by independent arrivals at convictions, not through coercion, personal argument, or appeal to authority. He considers that this represents a respectable chunk of an ethical system which might be spread beyond professional boundaries as an ethic for man. He points out that science, like all other systems of thought, seeks answers to questions which men hold to be of importance. But, whereas, in other outlooks, answers are accepted that harmonize with particular world-views peculiar to different cultural complexes, science seeks answers which are reducible to everyone's experience. These cannot be answers based on esoteric or mystic experience because such experience can be common to, at most, a few. These cannot be answers based on unquestioned authority because such authority remains unquestioned only to the extent that experiences that could lead to questioning are excluded. . . . In short, the irreducible answers to scientific questions can potentially be shared by all mankind.

Science, he believes, is the only social activity which taps the community of human experience at its roots. The great edifice of knowledge created on these foundations by all participants is communally shared irrespective of creed, color, or nationality.

Regardless of cultural, racial, or geographical background, the conversion to the scientific outlook is in general irreversible. Few who are scientifically oriented can return to beliefs in magic or supernaturalism they once may have held. Rapoport points out that science, unlike Christianity or industrial capitalism, is not culture bound to the West. It has actually had destructive influence on the European social order, on feudalism, the spiritual dominance of the church, colonialism, and laissez-faire competition. The moral crisis of the West is in part a result of the undermining of strongly held traditional beliefs by the spirit of free inquiry. He attributes the spread of science in spite of this not only to its technological contributions and the power thus given to ambitious men but also to the fact that there seems to be something universally satisfying about the scientific point of view, at least as it affects man's outlook on his environment.

Every system of knowledge including scientific knowledge rests, Rapoport contends, on some system of fiction. But scientific knowledge, by definition, alone can survive the shattering of its fictions and when this happens it becomes paradoxically more organized rather than disorganized and demoralized. Its fictions are not sacrosanct. The keystone of its ethics is the pursuit of truth which he suggests is the basis of all ethical systems. The concept of the dignity and brotherhood of man which is common to many ethical systems is a condition necessary to the pursuit of truth. Science leaves no room for the rationalization of quasi-ethical totalitarian ideologies and racial hatreds. These are maintained by coercion and by exclusion of experience supported by sacrosanct fictions which are shattered, once scientific enquiry is turned upon them.

Can Ethics of Science Be Extended?

The techniques of the politician are very different from those of the scientist. If the ethics of science came to pervade the thinking of voters we might expect a profound change in political climates and attitudes toward affairs of state. However, most scientists are not particularly concerned with problems of ethics and values. This is left to others who are often illiterate about science. The limited operational procedures of the laboratory appear superficially to have little direct relevance to practical aspects of everyday life. We all must make daily decisions about important matters on the basis of thoroughly inadequate evidence as judged by the controlled criteria of the laboratory. Professional scientists in their daily living often behave with no more wisdom than their fellows in relation to politics and social affairs. But in recent years man has been coming to understand his subconscious drives and the primitive motivations that control his aggressions and so much more of his conduct. As these insights become clearer by advances in the behavioral sciences there is hope that the irrational in human relations may fall increasingly under control and the ethics of science will become extended to wider circles of human relations.

E. R. Dodds has described the decline of Hellenic culture after the 4th century B.C. in his admirable book The Greeks and the Irrational. He traces the slow disintegration of an inherited conglomerate of beliefs and attitudes starting first among the educated classes and spreading to the masses. The deterioration of the first European society based upon rationalism has important lessons for our time. The educated Greeks were aware of the eroding power of the irrational, but they could describe what went on below the threshold of consciousness only in traditional mythological symbolic language. They had no better way of understanding it and could not control it. Dodds suggests that modern man has much better tools for this purpose, derived from biology, psychology, psychiatry, and the social sciences. Through their use, behavior may become better understood, and historically tested values and ethical conduct they generate can be more securely based on reason than was possible in ancient Greece or in the period following the European enlightenment of the eighteenth century.

It is perhaps not too optimistic to suggest that the new emphasis on science and the teaching of science, stimulated by the sputniks, may ultimately bring about a wider appreciation of the ethical implications of science for the common good. The behavioral sciences with roots in biology and applications to society, by testing the values by which we live, may come to furnish an enduring antidote to the irrational in human conduct.

Hudson Hoagland

Dr. Hoagland is Executive Director of the Worcester Foundation for Experimental Biology of Shrewsbury, Mass. Permission granted.

This article is reprinted with permission from the Bulletin of the Atomic Scientists, 1100 East 58th St., Chicago, Ill., published monthly. Subscription $6.00.

Fiscal Crisis

Under this title Vermont Royster, the Editor of the Wall Street Journal, brings to attention of the American reader of this financial paper, a picture of the end of the road of the price system. It is interesting to note that additional copies of this paper containing this article are unobtainable.

A Fiscal Crisis of Major Proportions

This grim prospect which the men who manage the money for the United States Government confess they see before them in the next 12 months —and perhaps sooner.

So concerned are the top officials of the Eisenhower Administration that they are even considering both a special session of Congress and a nationwide television broadcast by the President himself to tell the country candidly the dimensions of the problem.

Mr. Eisenhower has already expressed his willingness to take both steps. The final decision to take them is being held up only by the hope that the crisis can be deferred until the first of the year —and by the FEAR that to thus dramatize the extent of the Government's plight might precipitae the very chain of events that must be avoided.

Needed: Drastic Steps

Yet the dimensions of the problem are already clearly revealed in the harsh and impersonal figures of the Government's fiscal position. After years of spending billions more than its income, the Government's debt is now $290 billion, the

highest ever, including World War II. At last, the figures show, the government is not only running out of money but also out of all the "easy" ways of raising money in the mammoth sums required. Whatever the next steps may be, they will have to be drastic ones.

The seriousness of the problem is clearly seen by the top officials at the Treasury Department, at the Federal Reserve Board, at the White House and also by those in Congress who have been willing to look. And privately, if not publicly, these deeply worried officials are willing to give voice to some of the consequences they foresee if stern measures are not taken.

Here are some of the things they forsee:

At the very least a sharp rise in interest rates, with the rate of the rise increasing in the months ahead.

At the very least, then, a severe "money shortage" that will make the recent money situation modest by comparison. This would have a severe impact on the whole economy because it would squeeze all borrowers, Government and private alike.

Beyond this almost certain probability, some of the best informed officials in the Administration see worse possibilties which, though frankly recognized, are as yet spoken only in whispers.

A Loss of Confidence

The worst of these risks of a loss of confidence in the Government's will, or ability, to face up to its fiscal responsibilities. This would breed fears of not just a slow and moderate inflation but of large and rapid inflation. Such fears could undermine the market for U. S. Government securities at home and create abroad a companion loss of confidence in the U. S. dollar, some faint signs of which have already appeared. The result, in the words of one high Administration official, could bring a real "money panic" which would paralyze business and bring widespread unemployment.

This is truly a grim picture, and it may be that out of their deep harassment these officials draw it too darkly. But it is drawn with equal starkness in the executive offices along the Potomac and in some of the legislative offices on Capitol Hill. And even among those in Congress who have consistently dismissed all such concerns as "foolish fears", some now are beginning to wear worried frowns as they look at the hard figures that confront the U. S. Government.

Those figures, at best, do not present a cheerful picture. Here in bare outline, is what they show:

Within the next 12 months the U. S. Government must try to borrow $78 billion merely to stay in the same place; that is, it must borrow this huge sum merely to pay off old debts it has coming due in that space of time. Actually the figure will be somewhat larger because some of the money will be borrowed on very short-term notes which must be paid off by second borrowings before the 12 months have passed.

In addition to this heavy borrowing, the U. S. Treasury must somehow raise an additional $7 billion between now and Christmas to meet the spending bills that are piling up.

Thus the U. S. Government in one year must borrow a sum greater than a whole year's budget —a whopping $85 billion.

Only the Beginning

But this only begins to sketch the difficulty. For these many billions must be raised in a money market already squeezed by the demands of other borrowers—state governments, local governments, school districts, public authorities of one sort or another, plus record demands from private industrial borrowers.

How tightly the money market is stretched shows clearly in the record of the past few weeks. Last Friday the Treasury had to pay 3.9% interest to borrow money for only 13 weeks, the highest rate for such short-term bills since that dark March of 1933, when all the banks were closed. Its latest issue of 26 week bills drew an interest rate of 4.4%. This week the prices of Government bonds already on the market plummeted to their lowest prices on record and pushed the yields on these bonds to the highest level for Government bonds since 1932.

The ordinary citizen can get a clearer idea of how high these interest rates are by reflecting that a decade ago the Government was borrowing money for 10 years on its saving bonds at a cost of 2.9% whereas today it pays 4.4% for a 26-week loan. As late as 1958 it paid 1¼% for one-year money; today it must pay more than 4¾%. The Treasury's lowest outstanding coupon rate on old bonds is 2⅛%; today the government cannot borrow any money on long-term bonds at 4¼%, the present legal ceiling—it is simply out of the question.

This bar against long-term borrowing, if not lifted, means that the squeeze on the short-term money market will grow intense in the months

immediately ahead. A 5% interest charge for even very short-term money no longer seems unlikely to anyone; the prime rate for commercial borrowers is already 5%. Some top officials expect it to soar even higher under the impact of the huge Treasury borrowings. "It's about ready to jump into the stratosphere," says one of them gloomily.

Lubricant for Business

The effect of this could be staggering. Long-term borrowers who use money for capital investment can sometimes postpone their borrowings. But short-term loans are the lubricant for business; they are used to buy steel, sell automobiles, to stock inventories. A short term rate that did jump into the 'stratosphere' would play havoc not only with the Treasury's money managers but with the economy generally.

It is this prospect that lends urgency to the debate whether to call a special session of Congress. At the current session the Administration asked the authority to pay more than 4¼% on bonds so that it could shift a portion of its debt into long-term securities. So far this has been denied by Congress, and there is some feeling within the Administration that the severity of the Treasury's money plight was not sufficiently dramatized.

A special session, particularly if it was coupled with a radio and TV talk by President Eisenhower explaining the gravity of the problem in simple language, would provide the sense of urgency. But against this—and here is what gives the Administration pause—is the argument that it might also arouse the public fears. And fear could set off a chain reaction to a real calamity.

For grim as is the immediate outlook for the money market, the real ghost that stalks the Treasury corridors these days is the spectre of a sudden and wholesale loss of confidence in the U. S. Government's ability to meet its financial obligations without inflation.

Problem Feeds on Itself

One of the highest Administration officials puts it this way:

"No matter what we do, money is going to get tighter and everybody is going to be pinched. That means we have got to where the problem feeds on itself. The Government's huge demand for money pushes interest rates up, and the higher interest rates rise the more the Government's costs rise, which in turn means a bigger demand for money the next time around. And so on.

"But the real crisis will come if people ever get the idea that the U. S. Government can't or won't face up to the facts.

"If the Government now tries to ease the pinch on itself by having the Federal Reserve supply its needs—which is what some people in Congress tell us to do—that would serve notice on everybody that we had abdicated. Then even the high interest rates wouldn't persuade foreigners to leave their money in dollars. Can you imagine what would happen if foreigners decided to prefer to hold guilders or pounds or something to dollars?

"Or what would happen if Americans got persuaded—I mean really persuaded—that their Government was going to cut out paper dollars to pay its bills?

The "what would happen," with regard to foreigners, refers not to the gold holdings of foreign governments here, although they might be affected, but to the more than $18 billion of short-term securities held by foreigners in this country. Of this amount almost $7 billion are held by private citizens and business.

All these sums are, in effect, "demand claims" on the U. S. dollar; they could be liquidated and withdrawn at any time. And they probably would be, if ever confidence were lost abroad in the U. S. dollar. Such a flight from the dollar would mean further acute tightening of our money market, and still another spur to domestic inflation if foreign fears spread to people at home.

The situation with regard to U. S. savings bonds could be almost as precarious. Americans today hold some $50 billion of these and they are entitled any day they choose to demand cash for them. In recent months more and more Americans have been cashing in their bonds anyway, under the lure of higher interest rates elsewhere and the bitter lesson since World War II that the dollars they receive at the end of 10 years are worth less than the dollars they pay for them.

Adding to the Squeeze

In July alone the rate of redemption was more than double the rate of sales. Some $775 million of these bonds were presented for cash; only $350 million were sold, and most of those were sold through check-off programs in business. This already adds to the squeeze on the Treasury's funds, but it is nothing to what the effect would be if the public really started cashing in their bonds wholesale.

Treasury officials hope that Congressional permission to increase the interest rate payable on

savings bonds, which may be forthcoming at this session of Congress, will help stem the tide of these cash-ins. But they are not positive of that if at any time interest rates generally jumping higher and higher. "I'm not so sure," explains one official, that the interest rate is nearly as important to the small saver as his confidence that the Government will pay back dollars as good as those he spent for the bonds.

Confidence, then is the key. And there is no question that some of the confidence of the men who manage the U. S. Government's money is already badly shaken.

At the Treasury there is a feeling that the Government can get through the immediate months ahead without a crisis, although not without difficulty. Treasury borrowings will be heavy between now and the year end, and the upward pressure on interest rates grow, but the squeeze should ease somewhat beginning in January when new tax money starts flowing in. If demands for cash aren't too high, the debt might even be reduced somewhat.

The problem of managing the debt would be greatly eased if Congress gives the Government some better tools to work with. If the interest rate ceiling is lifted, the Treasury will probably put out some long-term bond issues, high interest rates or no, in an effort to reduce the pressure of constantly going to the money well for short-term loans.

Spending is the Key

But there is no responsible official in the Administration who pretends any of this will offer more than temporary relief if next June sees another large deficit to heap up the $12 billion deficit of the fiscal year which ended last June. Spending is the key to the problem.

Since 1950 (to go back no further) the U. S. Government has been running a parade of deficits of enormous proportions. The list of them tells the story: $3.1 billion, $4 billion, $9.4 billion, $3.1 billion, $4.2 billion, $2.8 billion, $12.9 billion. In only three years of this decade has the government spent less than its income, and then the difference was only small amounts. So the story is one of a cumulative demand, measured in many billions, on the nation's money markets.

What gives Administration officials their deepest concern is what the future bill will be if the Government cannot stop its spending and is forced to resort to open and undisguised inflation on a mammoth scale. To these officials the key to the future, as well as to the past, is what happens to the Government's spending.

But though a lot of people here are plainly shaken by what lies ahead of them, there is still a lot of what might be called "worried confidence."

In a large and ornate office overlooking the marbled buildings of Washington one of the best informed of the money managers meditates: "I just can't believe that the country will refuse to face up to the facts that the picnic's over and the money's running out. So I think we'll get through this crisis all right. But not, I suppose, until everybody recognizes that that's the word for it."

THE ONE WAY STREET

(Continued from Page 2)

then, called for means of transportation. The natural waterways were insufficient; hence, canals were dug, railways built; and each advance called for more supporting technology. The invention of the cotton gin increased the supply of fiber for the weaving of cloth; and, despite the efforts of the weaving industry of England to retard it, spinning and weaving technology reached America and a great and growing industry grew in the New England states, supported by the availability of water power. The dispersal of industry coupled with the vast distances cried for faster, more efficient communication, which was answered by the invention of the telegraph and telephone.

Each new application of technology called for still more technology and, as rapidly as the need developed, the engineer and technologist supplied an answer. Such names as Morse, Bell, Edison, McCormick, Fulton, Whitney, Westinghouse and Goodyear became familiar to every household.

When the first colonists from Europe arrived, it has been estimated, there were approximately two million Indians in all America north of Mexico leading a nomadic life and living strictly off the recurrent animal life and plants. The subsequent introduction of an agrarian culture made possible a population of approximately four million people at the time of the war with England. Ninety-five percent of the new people lived along the Atlantic coast. At this time it required about twenty workers on the farm to support one in the city, but as our technology grew, as we applied more and more energy other than that of man and his animals to the production of goods and services, the proportion of people on the land to people in

the cities gradually lessened and eventually reversed. Now it requires the effort of but one person on the land to support about twenty-two in the cities. The technology required to effect this reversal is enormous.

The problem now gets more complicated. Our population is growing rapidly. In the old days when an increase in productivity was required it meant more people worked or the people worked longer hours. Now, however, since the findings of our scientists, engineers and technologists are being applied to the problem of production, the more we want produced, the fewer are the people employed. And we are really only on the threshold.

Almost everyone today is familiar with some phase of the newer technology. On the farms there are the combines, cotton-pickers, planters, fertilizers, corn pickers, insecticides, and a vast array of powered machines, producing ever greater quantities of food, fibers and animal products. In industry there are steel mills, coal mines, automobile, radio, television, textile, chemical factories of all kinds becoming more completely automatized yearly. In transportation and communication there are dieselized engines, practically self-loading ships, piggy-back trains, automatic sorting yards, microwave communication systems, continental automatic dialing, etc. As the technology grew the resulting paper work grew and the integration of this complex required more and more office workers. But now the newer electronic machines are rapidly taking over and the next few years will see the ranks of the white collar workers decimated.

All of this new technology requires more and more irreplaceable resources which, in many instances, have already been depleted to the danger point. Yet our leaders say, and the great bulk of our people agree, that our economy must be kept going even though it be based on a foolish arms race. The one thing, even more than the depletion of our resources, which could halt our progress to an economy of abundance would be a cataclysmic war.

No, there is no turning back. We are surely on a one way street. We must go ahead or perish. Technocracy has the design for the operation of an economy of abundance such as is coming into being on this continent. Why don't you face the future with Technocracy rather than cling to the dying past with the Price System?

L. M. Proctor

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233) SHOWING THE OWNERSHIP, MANAGEMENT, AND CIRCULATION OF THE TECHNOCRAT published quarterly at Los Angeles, California for October 1, 1959.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Managing Board, 8113 S. Vermont Ave., L.A. 44, Calif; Editor, Leland Proctor, 8113 S. Vermont Ave., L.A. 44, Calif; Managing editor, none; Business manager, Marjorie T. Clouse, 8113 S. Vermont Ave., L.A. 44, Calif.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.) Managing Board, 8113 S. Vermont Ave., Los Angeles 44, Calif., which is a unit of Technocracy Inc., CHQ, Rushland, Pennsylvania, a non-profit membership, educational organization with no stock or stockholders. The officers of the Managing Board are: Leland Proctor, Editor; Richard Burnett, Assistant Editor; Kenneth Wolford, Research Editor; Maysie Foster, Circulation Manager, and Marjorie T. Clouse, Business Manager and Chairman; all with addresses at 8113 S. Vermont Ave., Los Angeles 44, Calif.

3. The known bondholders, mortgagees, and other security holders own or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: None.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledg and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semiweekly, and triweekly newspapers only.)

Marjorie T. Clouse
(Signature of Business Manager)

Sworn to and subscribed before this 13th day of October, 1959.

Margaret L. Travis
Notary Public in and for said County

(SEAL)
(My commission expires January 12, 1963).

Link Aviation, Inc., displayed an infra-red temperature sensing device for the detection of railroad car "hot boxes" which it said will operate "fully automatically."

The new unit is designed to be mounted adjacent to railroad tracks and will signal an alarm on a remote control panel when a railroad car with an overheated journal box, or axle-lubricating assembly, passes the device.

. . . The detectors have been in use in Europe for about three years. . . .

—Wall Street Journal, Oct. 15, 1959

TECHNOCRACY

North America's Only Social Dynamic

WHAT?

Technocracy is the only North American social movement with a North American program which has become widespread on this Continent. It has no affiliation with any other organization, group or association either in America or elsewhere. The basic unit of Technocracy is the chartered Section consisting of a minimum of 50 members and running up to several hundred. It is not a commercial organization or a political party; it has no financial subsidy or endowments and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsidence allowances. The annual dues are $9.00 which are paid by the member to his local Section. Members wear the chromium and vermillion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHEN?

Technocracy originated in the winter of 1918-19 when Howard Scott formed a group of scientists, engineers, and economists that became known in 1920 as the Technical Alliance — a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934 Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundation of the present Continent-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHERE?

There are units and members of Technocracy in almost every State and in every province in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces. Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the location of the nearest Technocracy unit.

WHO?

Technocracy was built in America by Americans. It is composed of American citizens of all walks of life. Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this Continent. Membership is open only to American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective office or active office in any political party.) Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher, or housewife—so long as you are a patriotic American—you are welcome in Technocracy.

The TECHNOCRAT

Offering to the American public a medium by which it can learn the facts regarding the transition period in which we are moving toward a New America of technological abundance.

PAMPHLETS

Introduction to Technocracy	25c	Continentalism—The Mandate of Survival	15c
Make Way for Social Change	15c	The Culture of Abundance	15c
Man Hours and Distribution	15c	'There'll Always be an England'	10c
The Energy Certificate	15c	'Our Country Right or Wrong'	15c
Science vs. Chaos	10c	America Must Show the Way	15c
		'The Sellout of the Ages'	10c

We have available additional copies of "Stampeding to Disaster," at 25 copies for $1; this timeless article is a good contact piece.

December, 1959 Whole Number 192

The TECHNOCRAT is published quarterly (Mar., June, Sept., Dec.) by a Managing Board at 8113 So. Vermont Ave., Los Angeles 44, Calif. Entered as second-class matter April 12, 1938, at the post office at Los Angeles, California, under the Act of March 3, 1879. The TECHNOCRAT is an authorized publication of Technocracy Inc., Howard Scott, Director-in-Chief, Rushland, Pennsylvania. Subscription rates: 25c a copy or 4 issues $1.00, payable in advance. Send all correspondence to (and make all checks and money orders payable to) The TECHNOCRAT, 8113 So. Vermont Avenue, Los Angeles 44, California.

Telephone PLeasant 1-0828

Not responsible for unsolicited manuscripts unless accompanied by return postage. Entire contents copyrighted 1959 by the TECHNOCRAT.

SUBSCRIPTION ORDER

To: THE TECHNOCRAT
8113 So. Vermont Ave.
Los Angeles 44, Calif.

☐ This is a new Subscription.

☐ This is a renewal Subscription.

Enclosed herewith in $..... to cover subscription(s) to Technocracy Magazines for.....years.

START WITH ..... ISSUE

(All three publications are quarterlies, but so rotated that one appears each month.)

Send to:

ALL THREE MAGAZINES—
☐ 12 issues (1 year), $3.00

THE TECHNOCRAT—

TECHNOCRACY DIGEST—

NORTHWEST TECHNOCRAT—

(Foreign rates, other than Canada, Mexico, and U. S. Territories 20% additional to above rates. Canadian orders payable in U. S. funds.)

AUTOMATION

Last year, the efforts of ten thousand men
Were needed here. Today the presses pound,
Conveyors groan and flywheels turn as then
But less than fifty people can be found
Within these walls. These few are engineers
Who study dials, change settings and make charts
While Automatically the tireless gears
Grind out new products for the waiting marts.

So comes Utopia! With growing speed.
Plant after plant now turns to these machines
That work untended, day and night, and need
No rest, nor food nor wages. What this means
Is ample goods, low prices, dividends;
If world demand falls off, a switch is thrown.
Expenses dwindle when production ends.
Thus experts say, our future is foreshown.

But tell me, you who plan this paradise,
Can these machines consume the goods they make?
And where are markets for your merchandise
If homes are wageless? Will you undertake
To give these displaced men new ways to earn
Their bread in fields machines can not invade?
Must they sit, idle — lacking ways to turn —
With folded hands, bewildered and betrayed?

I have no answers. I can only pose
The questions rising as your plans evolve.
That you must face before acceptance grows
To anger — then resentment — then resolve
To end a world in which men have no place
With fist and fire and club. There chaos lies!
And, to avoid it, you must plan apace.
Neglect these people — and your bright world dies!

Garth Bentley.

— SECTION STAMP —

The TECHNOCRAT

PUBLICATION OF TECHNOCRACY INC. • LOS ANGELES • CALIFORNIA

IN THIS ISSUE:

- Motivation
- No Time for Hesitation
- White Collar Automation
- The Future of Man
- Is Everybody Happy?
- Ignorance, Apathy and Fear

NEWS MAGAZINE

Whole No. 193

25 CENTS

The TECHNOCRAT

MARCH, 1960

Editorial

Motivation

As the times become more chaotic it becomes necessary to understand the motivations which guide us. Many of the things upon which we act have been accepted as fundamental but on close examination prove to be merely slogans. For instance, one of the primary goals which man has sought has been to attain security for his declining years and an abundance of the good things of life for his family during his lifetime. Here in America his goal is within sight. Those who are in control, through the mediums of communication assure him that now he has this security. By withholding some part of his earnings during his productive years he is supposed to be assured of security from want when he retires. Many are the men and women who have discovered to their dismay how insecure politically administered Social Security can be.

We are constantly bombarded with the idea that in a "Democracy" such as ours, that we have many rights and privileges as well as duties. It is our right and duty to vote. Upon examination we find first that we do not live in a "Democracy" but in a modified Republic. Practically we are not able to vote for a candidate of our choosing but merely have a choice of one or more people of whom we know nothing as to qualifications, ability, or integrity. On public questions, if we are honest with ourselves, we must admit we know little or nothing about the subject. To express an opinion upon a subject of which we know nothing is little better than moronic.

Each of us have the constitutional right to express our opinion. But how about the audience? True we can hire a hall, or buy time on radio or TV, or purchase space in a newspaper or magazine. So it boils down to the idea that you have the right but not the means. for few of us have the money. And after you have expressed your opinion unless you can back it up by facts, what have you accomplished?

Supposedly we pay allegiance to the law of Supply and Demand. So when supply exceeds demand, as in our agricultural situation we sanction the destruction of the excess, accept higher taxes so that those who produce the excess can be paid and we can have the privilege of paying more for that which we need. This definitely is moronic.

There are two other characteristics of our economic order which are particularly galling, and on which the operators of the system have been able to sell many people. We deliberately do not make any item to the best of our knowledge and ability. Rather we hold back improvements, so that today's merchandise becomes rapidly outmoded. This practice has been sold under the name of "Planned Obsolescence" and is rated good by the unthinking because it makes jobs. Again, we turn out goods which due to color or design, attract customers, but which are made of inferior materials so that after a short life they wear out. Usually we find that such articles can not be repaired and must be discarded and replacements purchased. This also is tolerated because it too makes jobs.

Motivation research, how to make you act in a way which will profit those who pay for the research, has become big business. Take the matter of public health. Doctor bills and hospital bills have soared so high in the last few years that many people who desperately need attention do not have the necessary means to pay for them. But a program of public health financed by society has been given the bad name of Socialized Medicine and so is anathema to many. A properly administered

(Continued on Page 8)

The TECHNOCRAT is published quarterly by a Managing Board at 8113 S. Vermont Ave., Los Angeles 44, Calif. Entered as 2nd class matter April 12, 1938, at the post office at Los Angeles, Calif., under the act of March 3, 1879. Subscription rates: 4 issues $1.00; 12 issues $3.00.

No Time for Hesitation

The political liberal and gradualist (if, indeed, there is a distinction) both favor evolutionary social change when and if it does come; both are opposed to revolution. How major social changes can be brought about by 'evolution' is not demonstrated in either theory or practice. It is just a nice thought with which to comfort the socially timid and cowardly.

Most so-called revolutions of history have not been revolutions at all; they have resulted in no fundamental change. The American Revolution was a change of political administration, but it was not a revolution. The ways of life for the great majority did not change. The French Revolution did bring forth a little change, but most of that change was nullified by the counter-revolution of Napoleon. The instituting of the metric system of measurement was the greatest net gain. India recently has had a change of political administration but no revolution. China has had both a change of political administration and a revolution. The Bolshevik Revolution in Russia has been the most dramatic revolution of this century, though not the most drastic. The attempted gradual revolution in Spain was stopped cold by the fascist counter-revolution of Francisco Franco, et al. The revolutions of Latin America have been abortive rather than complete; the net result has been scarcely more than a change in political administration. The recent change of political administration in Cuba was not a revolution; if anything, it was a step backwards. Cuba still needs a revolution.

When social conditions reach a stalemate, the theory of gradualism is without a means of instituting itself or of advancing social change. If it had an inbuilt mechanism of genesis and growth that would proceed inalterably toward a predetermined goal, it might claim meritorious approval. But where is such a mechanism to be found in liberal gradualism? The theory of gradualism, in practice, proves no more potent than a camouflage for the indecision, the ignorance, the incompetence, and the timidity of the liberal. It is a 'sitting duck' for the tactical counter-measures of reactionism. The liberal is compelled to use the implements of the status quo to effect his program; yet these implements have been designed to 'check and balance' (meaning to checkmate and annihilate) 'radical tendencies.' The sad fate of the tepid socialism of postwar Britain illustrates the fallacy of this halting approach. The Labour Party lacked the spirit or judgment to be either radical or drastic; and it was soon maneuvered out of power by British and American reactionism.

'Revolt' is a word that is packed with emotion: with fear for those who are holding the uncertain reigns of power; with inspiration for those who would correct social abuses and neglects; with apprehension for those who are incidentally involved or overrun by it. Hence, most self-styled revolutions have been conducted in anger and with the clash or thunder of weapons. Only rarely have the long-term results justified this action. Perhaps part of the fault has been in the assumption that those who are qualified to lead a revolt in anger are also the ones best qualified to administer social affairs under conditions of social stability. Or it may be that the fault lies with the belief that a mere change of administration will bring with it, spontaneously, a change of social pattern. Or the goals of the 'revolution' may be too vague or too limited to serve the demands of social change. Too often, the failure has been due to an over-emphasis on the change and 'purification' of the administrators and too much hesitation over changing the mechanics of social operation. This was a fault of the Bolshevik Revolution during its early phases.

How Not to Run a Revolution

The Labour government of Britain, coming into power in 1945, is an illustration of how NOT to run a revolution. The Labour Party gained popular support on a program of limited socialism; but, then, it had neither the background nor the audacity to institute socialism, as such. It took over a few of the more defunct enterprises, giving full compensation to their owners, thereby insuring them against financial loss. It let private enterprise continue to operate those industries which showed a profit. It failed to take over the media

of communications, leaving most of them in the hands of the counter-revolutionists. And it did not institute physical changes that were irreversible. The most revolutionary thing it did was institute free medical service for the public. This was so much of the social improvement that the Tory governments, since then, have been able to revoke it only in part.

For the present, India is hovering in a position between private enterprise and mild socialism. Its government is made up of incompatible factions.

A Major Social Change in Operation

China offers the best example of major social change since World War II. The leaders of the revolution had been seasoned by many years of fighting against adversity and of maintaining within their own group the mechanics of survival and cohesion. They had a program of social change; and they had unity at the top. And, once in power, they altered the physical set-up of the society beyond the point of returning to the Old Order. The new regime abolished the old political forms and offices and replaced them with new ones; it drastically revised the economic structure, including ownership and use of property; and it revoked clerical control over secular affairs.

Many areas on the earth are in serious need of social revolution; their present situation is becoming intolerable and the future promises no improvement. These areas include all of Latin America; all of Africa; Western Europe; the Middle East; southern Asia and the outlving islands. These areas are burdened with overpopulation, political mismanagement, and economic inequity — opulence for a few, austerity for the many, and clerical domination. Their only future lies in a drastic revision of the social order: they need a new order, one that would, among other things ,reduce social costs, effect a more equitable distribution of their produce, control population growth, and steadily advance technological processes in their respective areas.

Any attempt to 'develop' backward areas by opening them up to private investment of capital and exploitation of their resources is anti-revolutionary, and it provides no solution for their plight. Any attempt to expand production without instituting population control and redesigning the distributive system is subject to quick nullification.

India's Problem Analyzed

For purposes of illustrating revolutionary objectives, let us consider the problem of India. Here is a large area of diversified climate and rainfall, with considerable mineral resources and timber, with plentiful fresh water, and with a population of nearly 400 million on an area less than half that of Continental United States. Most of these people live on the borderline of survival. There is little promise under existing circumstances for economic betterment; rather, the probabilities favor further economic deterioration for the great majority. The people are woefully ignorant, superstitious, and debilitated. The land is divided into small plots for the most part and cultivated at a very low level of efficiency. A huge overburden of sacred cows and other animals pillage the farms and vegetable stalls, and they contribute little to the economy other than their excreta, little of which finds its way into the soil as fertilizer, the bulk of it being gathered up for house plaster and fuel. A major part of the people are distributed through the country in small villages and rural habitations, which are primitive and unsanitary. Human muscle is the chief source of energy in India.

Before social advancement can be achieved in India, a number of actions must be considered, among them: Registration of the population; reorganization of the housing in low-cost, healthful units; reorganization of the agriculture into large, efficiently-operated units; full development of internal sources of power; control of population growth and eventual decrease in numbers; development of heavy industry, moving rapidly toward industrial self-sufficiency; a nationwide program of general welfare, including health, education, recreation, and subsistence. The people must be provided a means of breaking out of the stifling superstition of the Hindu and Moslem religions, developing intellectual freedom to advance socially in conformity with physical reality.

In a revolution in India, the regulation of the individuals is not nearly so significant as the technological control of the environment. Not all changes can be made at once; but it is important that the leaders of the revolution have a well-developed goal in their sights; that they push relentlessly toward it as fast as circumstances will permit; that they maintain unity within their own ranks; and that they quickly make a return to the *status quo ante* impracticable.

Let us discuss the above points in a little more detail.

Aside from a cursory census taken in 1951, there has been no official registration of the people

of India; many of the population figures have to be 'estimated'. For any strategical planning and action, it is essential that the people of an area be registered, including statistical data and personal qualifications; that the people be provided identification cards (at least designations), and that their whereabouts be ascertainable at all times. (We are aware that the liberal will scream that this is a feature of a 'police state,' that it encroaches on the 'freedom' of the individual. That all depends on the purpose of the registration and how it is handled. We are thinking in terms of a Functional Control, not of political regulation). In a functional society, it is highly important to know the physical factors and quantities involved; and the population certainly is a physical factor — the one of highest concern. It is of great functional use for the Social Control to know the numbers, the characteristics, and the location of the people in planning for the operation of any area. Further, the fact of registration and identification would serve as a strong unifying and integrating influence.

(In the United States, the people are partially registered and identified in many detailed ways: by insurance companies; by employers; by the telephone companies; by the departments of internal revenue — federal, state, county, district; by religious and fraternal organization; by the Social Security office; by the Armed Forces; by the police. Yet, outside of a sloppy census taken every ten years, there is no general, over-all registration; and positive identification is often difficult to establish — the incomplete fingerprint file of the FBI being the most definitive).

Most of the housing of India is poor, woefully inadequate, and unsanitary; and it is wasteful of space. To provide even minimal housing, with minimum facilities, for 400 million people is a gigantic task. (A minimal standard is as much as India can hope to attain during the first phase of its revolution). It requires a high degree of Planning as to design and location as well as highly efficient techniques of production; and an emphasis must be placed on low social cost. Moreover, housing cannot be given number one priority in the national scheme; it must be worked in with other urgent programs, and it must constitute an integral part of the general area program of reconstruction. Of first importance, the housing program would have to be related to physical capabilities. For India, it would be strategically stupid to consider anything so costly and wasteful as Park Avenue apartment blocks as a national pattern; and it would be even more stupid to plan an imitation of the suburbias of America.

High on the priority list of immediate goals for revolutionary India would be a reorganization of the agriculture, involving the consolidation of the agricultural area into large, technologically-operated units. This could not all be done overnight, of course; but one unit after another could be set up as rapidly as circumstances would permit. The primary aim must be to make India agriculturally self-sufficient within its own area. This would involve maximal utilization of all fertilizing materials, organic and inorganic, which are available. Considering the area and the population, it is unlikely that India can achieve an abundance of choice foods for all its people; rather, thinking must be in terms of gaining a substantial maintenance diet. Even that would be considerably higher than the general diet which exists there now, as revealed by the millions of gaunt, skinny-limbed people.

Among the primary requisites of any area development and maintenance is the factor of power — energy. The eventual standard of living in India (as everywhere else) will be closely related to the quotient of usefully-converted energy units divided by the population. India has considerable hydro-electrical power potential, and already much of this is being developed. The fossil fuel supplies of India are limited, hence this source cannot be relied on to the extent it is in the United States and Russia or even in China. India has considerable animal-power and a huge supply of man-power; and, although this is costly and inefficient compared to extraneous energy, it is versatile and is immediately available. Hence it should be used fully pending the development of extraneous energy sources.

Before India can hope to attain stability, either internally or in its international relations, it must achieve productive self-sufficiency. This calls for a high priority on heavy industry and a maximum development of long-term power potential. Already this concept is held by some of the leaders, and considerable progress is being made in that direction. This constitutes the major revolutionary trend in India at the present time. It is being expedited by the aid of friendly and semi-friendly nations. Until India has an industry that is both self-perpetuating and self-proliferating, it will remain in a backward, dependent position in world affairs — an awkward position for any nation

with a revolutionary program. Hence, industrialization in India should be pushed forward with the utmost vigor and determination. (It was primarily the development of heavy industry in Russia, belatedly following the Bolshevik Revolution, that saved the Soviet Union from conquest by the fascist powers in World War II. It is the rapid development of heavy industry in China that is forcing that country into the forefront of the world's potent nations). India has considerable resources for the development of industry, but they are limited; she cannot permit a lavish squandering of resources similar to what has occurred in the United States. In a short while, the sacrifices and effort that go into the development of heavy industry will pay off in national strength and general welfare. In the meantime, India must rely heavily on human toil and hand tools to maintain essential operations.

The general welfare of the people of India presents a massive problem and a challenge to the strategic leadership of the area. The recent improvements in disease control are not all to the good as seen from the over-all strategic view; for, they imbalance even further the natural checks on population growth. India is heavily over-populated at the present time. Tactically, improvements in health and sanitation are commendable, and they are an obvious blessing to the individuals; but, strategically, they must be offset by a nationwide program of birth control. When the population of an area exceeds an optimum density, the birth of new individuals ceases to be a private matter; it becomes a public concern. (We shall not endeavor to advise India on just how it shall effect birth control; let it suffice that ample knowledge is available. Further, let it be noted, we mention *control*, not voluntary self-regulation of the individuals).

A general program of improvement in health, education, and recreation is an essential part of a revolutionary program which requires the active or tacit support of the population. But even more important than that in India is the provision of basic subsistence. Millions of people in India live below the subsistence level. Starvation and exposure are conspicuous causes of death. The mere halting of the downward trend, without connsidering a reversal of it, demands drastic action of a revolutionary sort. It involves the stoppage of population expansion, which is about seven million net per year. It involves a lessening of the stranglehold of superstition on the lives of the people. It involves a rapid and vast improvement in agriculture. It involves a fast expanding industrialization program. And it requires a speedy upgrading in the educated and trained personnel. Further, it depends on the avoidance of major external wars, such as, for example, a war against China over border disputes. This is a big order, and it calls for the highest type of strategic genius.

A Backward Country—China Demonstrates How It Can Be Done

The conservative and liberal, who by nature lack such strategic genius, will recoil in terror at the magnitude and dynamics of such a program. 'It might be all right in principle, but how can it be carried out?' they will wail in defeat. Already, China has showed them HOW it CAN be done. China started out with a larger population, a lower standard of living, as high illiteracy, an ancient tradition of superstition, negligible technology, and powerful external hostility; yet, in only ten years, China has broken out of the strangelhold of the past. China has made mistakes and her concepts have suffered from certain limitations; but the general strategy and direction have been affirmative.

In China, a revolutionary corps of the youth which had no stake in the Old Order was organized and trained to carry out the objectives of the revolution. Western visitors to China are amazed at the youthfulness of the personnel in charge of factories and construction projects, also at the large number of girls participating. The inertia and resentment of the Old Ones has been by-passed as gently as possible; many millions are being retired to 'Happy Homes for Old People,' where they are provided care and maintenance for the remainder of their lives. The symbols and rallying points of the Old Order are being obliterated; among them, the burial mounds of The Ancestors and the patriarchal family dwellings. The communes are introducing a new pattern of living; and there is no way of 'going back' to the old. The Chinese have had the advantages of a high percentage of vigorous youth in the population and the intial momentum of armed conquest; and the leaders have a revolutionary background.

We may not be in complete sympathy with the aims, the methods, and the social and governmental forms of China (and we certainly would not endorse the same procedures for this Continent), but that does not negate the salutary effectiveness of the recent revolution in China. The Chinese have demonstrated that, with a revolutionary pro-

gram, a strategic sense, vigorous action, and strong central control, even the most backward, corrupt, and over-populated nation on earth can be changed over into a modern, dynamic, robust nation — already the third most powerful nation on the earth and moving upwards. So don't tell the youth of China 'it can't be done.'

A revolution, if it is to be viable and successful, must remove the mechanics for a return to pre-revolutionary conditions, also the incentives. Both of these usually are closely tied in with the economic system; therefore, it is highly important to disintegrate the old economic order with its established rackets and traditional 'bourgeoisie.' Among other things, the incentive of acquisitiveness must be minimized. All property other than personal effects of the individuals should be conscripted; then, that which is pertinent to private living, be allocated to individuals and families on a use, rather than an ownership, basis. All income from property, then, accrues to the society and not to private persons. To avoid the social troubles and hazards that arise from private accumulation and manipulation of monetary wealth, it is advisable that all negotiable forms of wealth be eliminated, that the people be supplied, instead, with non-transferable, time-limited purchase certificates. Thus the primary mechanism of counter-revolution will be removed. The people are brought into dependence upon the society for their maintenance and welfare. There is no way to make payoffs on deals. Individual importance and recognition, then, must be acquired through service to the society rather than through aggressive acquisitiveness. (Russia failed to fully negate the means of amassing individual wealth, and that is a present source of trouble in her society).

Any revolutionary regime that fails to 'nationalize' property WITHOUT indemnification; that fails to abolish money in all its forms; that fails to set a ceiling on private wealth and income; that fails to provide at least minimum maintenance for all members of the population — that regime is leaving itself open for internal trouble.

Most revolutions of the past have depended on military action to 'take over' the area and the government. Military action, particularly that of a civil war, tends to build up partisan resentments that smolder for a long time; it is also destructive of life and equipment and disruptive of services: it results in a depressed economic situation. Its chief advantages are the rapid takeover of control and the quick conditioning of the people to drastic change; and it provides a fervor and momentum that is sometimes helpful.

An orderly non-violent transition is much to be preferred, although its institution requires exceptional perception and skill on the part of the 'leaders,' and its initiation almost certainly requires a national emergency arising from some excess or failure of the old regime.

A revolution, if it is to get anywhere at all, must maintain unity in its direction and among its top personnel. Any social movement that permits schizmatic factions and 'deviationism' to appear with respect to its primary objectives is sure to bog down in internal discord and friction. The Russian revolution maintained a precarious unity through the structure of a monolithic one-party political system and a ruthless purging of dissidents. China has achieved it with less ostentatious action. The method of maintaining unity and the exact facet of revolutionary doctrine that is followed is secondary to the fact of unity itself. Disunity among socialists and liberals has been the feeding ground of fascism in Europe. The Social Democrats of Germany could not agree among themselves on social objectives and fascism under Hitler took over. Disunity among the leftist parties in France has made it possible for fascism under De Gaulle to assume power. Disunity at the top in India is a serious deterrent to social change there. Disunity is fatal to the Labour Party of Britain and to the Democratic Party in the United States.

A revolution requires popular acceptance of it in the area affected. This does not mean that a majority of the people must support the revolution actively. The dynamic force in a society is never that large. Some 95 per cent, or more, of the people will be virtually indifferent to the ideological issues involved; the active supporters rarely would exceed one per cent of the population. Mass popular demonstrations can be organized only for immediate and simply-stated objectives, and on an emotional rather than an intellectual basis. They can be organized by either side. The mob responds to the appeal of excitement and slogans, particularly those that contain an economic incentive. In impoverished areas, that incentive is always at hand and awaits only to be openly espoused. The reactionaries tend to organize mob action on the basis of fear rather than hope — fear of danger to property and present economic stakes in the *status quo*.

In the gaining of popular support, timing is highly important; mis-timing, whether premature

or too long delayed, can be disastrous. Twice within recent decades, the American people have been ready for revolutionary change. And both times they were sidetracked by a conservative leadership and federal credit. At the time of the Roosevelt political victory in 1932, a program of revolutionary change could have gained popular support. This fervor was diverted into a dead end by New Deal conservatism. Again, at the time of the Pearl Harbor Incident, the American people were ready for social change in their eagerness to defeat fascism. Again, federal credit was used to sidetrack them into a reactionary pursuit of war wages, war profits, and war racketeering.

At both of these times, the lavish use of federal credit provided enough 'hamburger incentives' to influence the mob. At both times, the United States had ample 'collateral' in the form of physical assets to permit credit expansion. But now we are reaching that sad place where further amplification of credit merely adds to inflation without increasing the purchasing power of the people.

An extreme analogy of this situation was that prevailing in 'Nationalist China' immediately following World War II. Inflation had so destroyed purchasing power that a hundred million dollars in currency was not even pocket change — or the equivalent thereof. At that time the people were very ripe for revolution; and it just happened that the Communist revolution was ready for them. The forces of reactionism under Chiang Kai-shek melted away before the revolutionary fervor; yet the ideology of communism was remote to the thinking and desires of the people. But its timing was 'right'; so, now, China is Communist.

America's Change Must Be Orderly

The present situation on the North American Continent is very different from that of postwar China. But North America, too, is in severe need of social change. The economy of the Price System has become too costly to maintain; and its inequities are forcing millions of Americans into a state of desperation. When the time comes for the American people to have their revolution, at last, it must come in the form of an orderly transition. A civil war is out of the question. Because of our highly developed and integrated technology, civil war would be chaotic in the full sense of the word. Warfare is not propitious as a technique of social change on this Continent.

North America has reached the stage in its technological progress where only one form of revolution is applicable — a transition into a functional control, a Technocracy. The Technocrats of this Continent have studied the social factors, have analyzed and projected the trends, and have designed the next most probable state of society for this Area. The design is, and for some time has been, ready for adoption. The boldness and clarity of Technocracy's objectives have set its program off as by far the most revolutionary and beneficial yet offered to the people of North America — the only one that is 'in intellectual and technical accord with the age in which we live.'

The next time the people of North America are ready for social change, there will be only one answer, one way to go. The reactionaries and conservatives will have played their last trick; the liberals will still be without a program. The people will be ready to organize a mass movement toward that objective which offers them the most for the least effort on their part. The people of a mass movement are not governed by intelligence and understanding; they are impelled by desperation and excitement to take action and gain quick results. They will not have, or take, time to formulate a new program; they will grab hold of some program that is already formulated and clearly stated. Only the program of Technocracy has the features which are in positive and dynamic accord with the trend of events on this Continent. Technocracy shows the way to the New America of tomorrow. The time for the social leaders of the future to study Technocracy and prepare themselves for the coming change is now.

—Wilton Ivie

Motivation—

(Continued from Page 2)

Public Health Program providing semi-annual health check-ups could do much to prevent sickness and disease and build up national morale.

It is becoming mandatory that we each of us know just what makes us tick and where our interest lies. If you are getting tired of taxes interest, time payments, doctor bills, want when plenty is available, shoddy merchandise, inflation, deflation, poor or non-existent representation, cold war and all the many other aggravations which are inherent in a Price System, why not study Technocracy's program and acquaint yourself with some sensible answers?

White Collar Automation

Little noted in the press, an "industrial" revolution is well under way in white collar employment, says the IUD Digest, published by the Industrial Union Department of the AFL-CIO.

Although similar in many ways to the great technological changes taking place in the nation's factories, the white collar revolution may have even greater implications. For both the nation and its white collar employees, this new technology may require major adjustments in outlook.

White collar has been looked upon as an ever expanding field, especially in the area of office employment. It has been viewed also as an area in which the nation's increasing number of college graduates might find opportunity for "career" jobs.

Jobs May Disappear

Nevertheless, the nation may not be able to rely upon the white collar jobs in the years to come. The great technological revolution that has already changed the nature of the modern factory and farm is radically altering the modern office and store, especially the big operations that are becoming the rule in American enterprise.

A Washington, D. C., business columnist commented last spring on the fact that employment in this "White Collar" city had risen only three percent above the recession low point of February 1958, by the same month of this year. Most of this, the commentator noted, resulted from an increase of 7,700 in building construction payrolls and a rise of 6,600 in government payrolls. Service industries, he said, accounted for the remainder of the gain.

"The output of goods and services has increased much more than this three percent gain in employment over the past year. The gain in productivity, although impossible to measure, is indicated, for example, by the fact that banks, brokerage houses, and real estate firms employ no more people than a year ago despite the increase in activities.

Sales Up; But No Jobs

"Despite the big gain in retail sales, especially of cars and household appliances, the number of persons employed by stores and wholesale firms has increased less than one percent in the past year — despite the increase in private utility services — several hundred fewer persons are on the payrolls of these utilities."

The areas described by the Washington business commentator are those in which job expansion is supposed to be automatic with every pickup in economic activity. This spring's employment pickup, however, came primarily in construction and other outdoor work. Recovery this time did not bring with it any marked expansion in white collar jobs.

Record-keeping, nevertheless, has become increasingly voluminous. It appears at times almost as if our world were being drowned in a sea of paper. For the most part, however, this paperwork is essential to our complex industrial society.

Red Tape Multiplies

With an ever-greater volume of record keeping, the percentage of the sales dollar going into the white collar operations has risen accordingly. The employer answer has been the same as in the factory. Years ago, the simple bookkeeping machine entered the office and became commonplace. Today, office machines are being replaced by computers and full office automation is but a short step into the future.

Not long ago, R. H. Macy & Co., the world's largest department store, announced that it is turning to automation to solve its mountainous record-keeping headaches. The big store is planning to install a million dollar electronic system. This machine, the announcement said, will prepare customer's statements at the rate of 50 per minute—twenty-five times faster than at present.

The implication for billing clerks, bookkeepers, inventory record keepers and other white collar workers are clear. Fewer white collar workers will be needed and these fewer workers will be needed simply to feed information into the machine.

Financial institutions in Washington, D. C., are able to process more checks with the same number of employees because of the new office technology. Bank automation is already a fact in many cities. It is cutting the need for bookkeepers, file clerks, and sometimes, even for tellers.

Automated Checks

Bank automation began many years ago, but has reached its payoff stage only recently. In Washington, D.C., major banks have already installed automatic and semi-automatic machines to handle check processing. One bank with 12 branches has reported that machines now handle Christmas club accounts, payroll, trust department work, checks for dividends, notes, and expenses of the bank itself.

Automation is already bringing centralized operation and control to branch banking. A New York bank is giving this development a trial run. Customers may now make deposits or withdrawals from a new branch office for accounts held at either of the bank's two other branches. The new development utilizes a facsimile transmitter between the teller and a central bookkeeping device. Bank officials have already hailed the new system as an intermediate step toward full automation.

Bank automation has so far been limited to larger institutions because it is "terrifically expensive" to install. Once installed, however, it can be used to cut unit labor costs significantly. While such installations do not necessarily mean layoffs of existing white collar forces, they usually mean less hiring and fewer job opportunities.

Lots and Lots of Ways

An advertisement in one of the nation's leading financial publications has announced "232 different ways to automate your record handling." This same ad states that "the cost of record-keeping" is an "increasingly important cost factor in every office." It offers automated record keeping for both the large office and the relatively small one.

The machines of the future will have an impact on the professional as well as the clerical job. Westinghouse has announced an "Opcon" a "thinking machine" able to make "impartial judgments based upon its own experience". Already, according to the announcement, the machine is being installed "to run a complete distillation column" in a major oil refinery. Such a machine can easily be adapted for routine laboratory testing.

The theoretical groundwork for a "reason machine" has already been mapped. The machines are reported to be capable of tackling economic, strategic, and biological problems that cannot be solved by classical mathematics. They are also reported to have the ability to make decisions or plan under conditions of uncertainty.

Such machines can be used to eliminate even lower level managerial jobs, and certainly can be used to handle the "routine" professional jobs in many scientific and engineering fields. The majority of "professional and technical" white collar jobs today have been so broken down that they fit into such categories.

A recent science conference in Washington learned that Capital Airlines offices in 11 cities are to be tied to a simple Univac machine handling 50,000 messages daily. The conference also saw computers translate French into English, index the Dead Sea Scrolls and compose music.

Recently, a national news magazine announced that the revolution in office work has arrived and went on to describe "how automation is taking over."

"In offices across the country," the publication stated, "a whole army of ingenious new machines is helping fight a rising tide of paperwork."

Seeking to still the fears of white collar workers, it declared that there are today "100,000 more workers in offices than a year ago."

According to this publication, the new high speed computers are creating more jobs than ever before. Its assurances in this regard have a familiar ring, sounding virtually the same as those given to factory workers when automation was introduced only a few years ago.

Getting Cheaper

The magazine noted that "recent electronic developments have reduced the size of these (electronic) 'brains' and cut their cost." This, it added, is making the new white collar robots more available to "small and medium-sized industrial concerns, department stores, and similar business."

It is comforting to learn that America has 100,000 more white collar office workers than a year ago. It should be noted, however, that the nation has come out of the depths of a recession since that time and that the increase is hardly startling in view of this circumstance.

The average monthly gain in the number of white collar clerical office employees between 1950 and 1957 was 300,000. In view of the economic recovery and the far greater amount of record keeping than two years ago, the current rise of 100,000 spells fewer white collar job opportunities ahead.

Automation has not only cut job opportunities in the factory, it has changed the nature of the factory job. As studies have shown, the worker in the automated factory has become almost divorced physically from his fellows and has even been described as the "lonely worker".

The same prospect lies ahead for the white collar office workers. Traditionally, this employee has worked at a desk. In the big offices, the desk might have been one of a long line of similar desks. Always, or almost always, the white collar employee has been in relatively close contact with a supervisor or manager.

The new office is a much lonelier place. The traditional line of desks is disappearing. Substituted is the console of a computer, an automated file table, or some similar device. More and more, the modern office is beginning to resemble the factory. The big office of the future may, indeed, become no more nor less than a record-keeping or data processing factory.

Too Many College Grads

Today, the office worker can more or less control the workpace—though not always. But in an automated office, the machine will more and more determine the pace. What this will do to the traditional "white collar psychology" can only be guessed at this point, but the impact promises to be startling.

With the shrinkage of the white collar job opportunities, there will come new problems. The number of educated Americans—or at least those with some college background—is growing. While automated office operations may create such skilled jobs as 'computer analysts,' these will be comparatively few. Meanwhile, white collar automation, in limiting the number of white collar jobs, will also tend to limit the number of career jobs for the man with the college degree.

College enrollment today is about 3.2 million, and the number is expected to double by 1970. This is all to the good. Nevertheless the question of jobs for the educated white collar groups is already troubling America.

Something like 16.5 million Americans in the labor market already have at least a year of college training. Fortune magazine estimates that by 1970, this number will have increased to 22 million, about half of whom will have degrees.

Prospects Are Bleak

Already, secretaries and "gal Fridays" with college degrees are fairly commonplace. As automation cuts "career" job opportunities the educated white collar worker will face even bleaker prospects.

Fortune is already worried because the time is approaching when "there are likely to be serious difficulties in finding enough 'top jobs' for the college trained."

It noted that the number of college-trained men between 25 and 34 years of age is now 2.8 million and it expects this number to increase to 3.8 million by 1970. At that point, it says, the college trained will be one-fourth of the total workforce in the age group.

"It would appear that opportunities to move toward top jobs have already been narrowed considerably," the magazine worried. It added that the time is at hand when a fair number of college-trained men must already be working at jobs to which no high status attaches. It also noted that there has been a marked increase in the number of men with college training who are holding blue collar jobs.

Past Is No Guide

This represents a sharp reversal of past tendencies. In the past, the college trained could almost automatically be assured a "better" job, although not so much 'better' as most of them were led to believe.

Fortune's answer to the problem is typical. It would substitute titles for pay and job content.

"One partial solution to the problems of the 'educated many' would be to give professional and managerial status to the broad band of corporate and government employees who at present hover uneasily between clerical and executive layers or, in manufacturing, between skilled workers and the technical staff.

Confirming what labor has long known, the publication admitted that at least part of the present and prospective increases in professional and managerial jobs represents "not a true increase in the number of such jobs, but an inflation of titles."

The big increase in the number of 'educated' white collar employees is coming at a time when the impact of automation on white collar jobs will be felt with hammer blows. Over the next several years an ever growing number of trained white collar workers will be competing for a shrinking number of white collar jobs. Further, the content of tomorrow's white collar jobs will have altered radically.

It is doubtful that the trained white collar employee who has been led to believe that unlimited opportunity awaits him will long settle for a title having little content and carrying less pay. Nobody could hope to fool all the people all the time.

Button Pushers

Tomorrow's white collar workers, pushing buttons all day in splendid isolation, will almost

(Continued on Page 26)

RESEARCH BULLETIN

Fantastic Cotton Crop

Westmorland, Cal., Dec. 12, 1959—The John Elmore ranch near here, has hung up what is perhaps a world record crop for acreage cotton production.

With the first picking completed and more than two-thirds of the crop gathered, the output from 1194 acres in cotton on the 7,000 acre ranch is expected to exceed 4,800 bales — more than four bales per acre.

National average production is .82 bales per acre and the average for Imperial Valley last year was 2.6 bales per acre.

(This is not an accident of nature, but an example of what can be accomplished when science and technology are applied to the production of goods and services.)

Record U.S.Crops in 1959 Used Smallest Labor Force

Washington—U. S. farms last year turned out the heaviest volume of crops and livestock in history with the smallest labor force on record, the Agriculture Department reported.

The number of farm workers during 1959 averaged 7.4 million, the agency said, 2% less than the year before and the smallest since records began in 1910. The work force was nearly half smaller than in 1916, the peak year when 13.6 million family and hired workers were required to grow the nation's food.

Productivity of farm labor is increasing steadily as work-saving machinery replaces manual workers in the fields. Last year's total production of crops and livestock rose 125.4% of the 1947-49 average, up nearly a point from the previous year's record. From Wall Street Journal, Jan. 12, 1960.

(This trend toward fewer workers, more machinery, fewer farms is an old story to Technocrats, for this organization has been publicizing these trends since before 1934.)

Bread Wrapper

American Machine & Foundry Co. has turned out a high speed bread wrapping machine capable of handling all kinds of wrapping material, including the hard to handle polyethelene. The machine wraps 75 loaves a minute and other baked goods such as rolls at 50 packages a minute.—L. A. Mirror, Nov. 30, 1959.

Slowly Awakening to Their Role in Society

Fargo Forum & Moorhead News, Chicago—A scientist scolded his colleagues who have aided in spreading the "myth" that scientists cannot be heavyweights in national affairs and public issues.

He said there is a rather widespread impression that scientists, because of their competence in special areas, are largely incompetent in broader fields.

Prof. H. Burr Steinbach of the University of Chicago Zoology Department, urged scientists to speak up on all types of national issues. . . .

"Scientists should sit with other scholars from all areas of intellectual activity to consider problems relating to education and the support of research in general," Steinbach said.

"Scientists should contribute their powers of orderly thought, comprehension and judgment to top policy considerations, federal and otherwise. They should not be compelled to stick to science just because of special training." . . .

FRONT COVER

Completed S H Q of Section 2—R D 11734, Colton, California. A thoroughly functional set-up.

Gasoline Additive

A new gasoline additive identified as a modified phosphatide has been announced according to

Chemical Engineering Magazine. Engine research, road tests and commercial usage by a major refiner show that the product provides excellent corburetor detergency and anti-icing, plus serving as a mild rust inhibitor. Data show that the product does not contribute to intake valve deposits, ORI, surface ignition, spark plug fouling, sludge or varnish formation, or cause any other detrimental side effects.

About 25c worth of the new product treats enough gasoline for over 20,000 miles of average driving, saves as much as $25 in service expense, promotes maximum efficiency of carburetor operation, and provides anti-icing properties. At a suggested concentration of 50 ppm, the product prevents and gradually removes deposits on the carburetor throat and throttle plate.

(Following usual Price System practice, when a catchy name is thought up the ballyhoo will start and the consumer can get this additive at a premium of about two cents a gallon extra).

Ownership or Use

From an article in the L. A. Times by Chas. Neale, Jr., "Not long ago, a home was a thing of sentiment primarily; something bringing to mind mother and family. It also was a haven — a legal retreat which justified the use of a gun to protect. Americans have always loved homes.

We still love them but in a new manner. Housing projects weakened the "blue heaven" feeling, and so did our changing concept of private property. We no longer worry about "ownership" as long as we have 'use' and as long as we refer to things as ours."

(The concept of private property is in reality only a figment of the imagination of man. Many people have found out even in the Price System that what they are really concerned about is 'use.' It is becoming quite common to lease automobiles, machines, etc., and let someone else take care of the upkeep).

New Technology

Detroit—Ex-cello-O Corp. announced a machine tool which it said is designed for precision turning, boring, grinding and capable of electronic or manual control in increments of 25 millionths of an inch.—Wall St. Journal, Nov. 24, 1959.

This Will Probably Be Shelved

Hamilton Spectator, Nov. 25, Milwaukee—An electric tractor that can tug a multi-bottom plow through parched packed earth with a pull of 3,000 pounds has been created here.

Although the tractor is strictly experimental, it points to the start of a revolution in powered farm machinery — a revolution that could spill over into the automotive field easily.

Instead of an ordinary engine, the tractor houses a small army of 1,008 fuel cells under its hood. These instantly convert gases, chiefly propane, into electricity. The resulting direct current drives a 20-HP motor which drives the tractor.

Efficiency of this unit far surpasses that of diesel engines, reports Allis Chalmers Mfg. Co. here. This is partly because little heat is generated in the electricity-producing chemical reaction.

"The possibility of producing electric power directly from a fuel at an efficiency of 90% is truly startling when compared to the best diesel engines, which are about 40% efficient," the company said.

Each individual fuel cell resembles a small battery. A mixture of fuel gases is fed to the anode. The gases are absorbed by catalyst, activated and caused to react in an electrolyte. This reaction released a stream of electrons, making direct current. Meanwhile at the cathode, oxygen is absorbed and reacts with incoming current to complete the chemical and electrical circuit. The overall process yields water and carbon dioxide, plus electricity.

Automation By Stages

Full page advertisement in Wall St. Journal, Nov. 6, 1959, by Westinghouse, offering their Industrial Control Computer called Prodac. It is designed to operate in unison with every other item of Westinghouse control equipment. As a result, step by step automation becomes possible. It can be used in electric generating stations; in steel and aluminum slabbing and plate mills; in paper mills; in chemical processing plants and in mass production and can lead to fully automatic production.

Colton Section Headquarters

When the members of Section 2, R. D. 11734 of Colton found themselves in need of an adequate Section Headquarters, they instituted a "do-it-yourself" program and built their own. From the plans and specifications to the final details, the work was done by members working in their spare time and on week-ends. Much valuable assistance was provided by members in adjacent areas who contributed architectural design, electrical wiring and building experience.

Centrally located for the members in San Bernardino, Colton, and Riverside the new SHQ will provide the facilities for organizing and conducting the educational activities of Technocracy in the area. The SHQ provides a reception room, office, assembly room, and kitchen facilities. Ample off street parking is provided.

Technocrats can well be proud of what they have accomplished. The big job is ahead. Technocracy marches on.

The Future of Man

Science provides increased control over the forces of nature, and so gives us the means of realizing our aims in practice. But it also provides fuller understanding and a truer vision of natural reality. This is in the long run the more important, for our vision of reality helps to determine our aims.

Humanist Era

By discovering how to control intra-atomic energy, science has launched us into the Atomic Era, with all its attendant hopes and fears. But by giving us fuller comprehension of nature as a whole, it has set us on the threshold of a greater and more revolutionary age, which I will call the Humanist Era. It is the era in which the evolutionary process, in the person of man, is becoming purposeful and conscious of itself.

Today, for the first time in man's long and strange history, science is revealing a comprehensive picture of the natural universe and of man's place and role in it — in a word, of his destiny.

Thanks to the patient labors of thousands of scientists — biologists and astronomers, geologists and anthropologists, historians and physicists — the universe of nature in which man lives is now revealed as a single process of evolution, vast in its scales of time and space. Man is part of this universal evolving world-stuff. He is made of the same matter, operated by the same energy, as all the stars in all the galaxies.

Most of the universe is lifeless and its portentiously slow evolution has produced only simple patterns of organization and little variety. But on our earth (and doubtless on other planetary specks) conditions permitted the appearance of the self-reproducing and self-varying type of matter we call life. With this, natural selection could begin to act and the biological phase of evolution was initiated.

Change Becomes More Rapid

Through natural selection, change — though still slow by human standards — could become much more rapid, and surprising new possibilities could be realized by the world-stuff. From the uniformity and relative simplicity of submicroscopic particles, there was generated the astonishingly rich variety of life, from sea-anemones and ants to cuttlefish and lions, from bacteria and toadstools to daisies and giant trees; the astonishingly high organization of a beehive or a bird; and most astonishing of all, the emergence of mind, living matter's increasing awareness of itself and its surroundings.

But there are restrictions on what blind forces of natural selection can accomplish. A few million years ago, it now appears, living matter had reached the limits of purely material and physiological achievement: only the possibilities of mind remained largely unrealized.

By exploiting the possibilities of mental advance, man became the latest dominant type of life, and initiated a new phase of evolution, the human or psychosocial phase, which operates much faster than biological evolution, and produces new kinds of results. Man's capacity for reason and imagination, coupled with his ability to communicate his ideas by means of the verbal symbols of language, provided him with a new mechanism for evolution, in the shape of cumulative tradition. Pre-human life depended only on the transmission of material particles, the genes in the chromosomes, from one generation to the next. But man can also transmit experience and its results. With this, mind as well as matter acquired the capacity for self-reproduction. Natural selection became subordinate to psychosocial selection, and the human phase of evolution could begin.

Science has also shown man his position in evolutionary time. Life has been evolving on the earth for over two thousand million years. Man-like creatures have existed for only about one million years, and human civilization for a bare five thousand. But evolving man can reasonably expect an immensity of future time — another two thousand million or more.

The Psychosocial phase of evolution is thus in its infancy: man as dominant evolutionary type

is absurdly young. I may adapt a simile of Sir James Jeans: If you represent the biological past by the height of St. Paul's Cathedral, then the time since the beginning of agriculture and settled life equals one postage stamp flat on the top. And, unless man destroys himself by nuclear war or other follies, he can look forward to evolving through at least the time-equivalent of another St. Paul's.

Role of Man

Man's place and role in nature is now clear. No other animal can now hope to challenge his dominant position. Only man is capable of further real advance, of major new evolutionary achievement. He alone is now responsible for the future of this planet and its inhabitants. In him evolution is at last becoming conscious of itself; his mind is the agency by which evolution can reach new levels of achievement. Man's destiny, we now perceive, is to be the agent of evolution on this earth, realizing richer and ampler possibilities for the evolutionary process and providing greater fulfillment for more human beings.

The revelation of fulfillment as man's most ultimate and comprehensive aim provides us with a criterion for assessing our own psychosocial evolution. Already in its brief course psychosocial evolution has produced real progress — increased expectation of life, less disease, more knowledge, better communications, increase of mechanical power and decrease of physical drudgery, more varied interest, and enrichment through creative achievement — in buildings and works of art, in music and spectacle, in discovery and ideas. But it has also produced poverty and crime and slavery and organized cruelty, and its course has been accompanied by constant exploitation, indignity, and slaughter.

In this new perspective, we see what Pere Teilhard de Chardin called the process of hominization — the better realization of man's intrinsic possibilities — has barely begun. Few human beings realize more than a tiny fraction of their capacities, or enjoy any but the most meager degree of possible satisfaction and self-fulfillment. The majority are still illiterate, under-nourished and short-lived, and their existence is full of misery and indignity. Nor have human societies realized more than a fraction of their capacities. They provide inadequate opportunities for expression and enjoyment, they still produce more ugliness than beauty, more frustration than fulfillment; they can easily lead to the dehumanization of life instead of its enrichment.

Science and the Future

What has all this to do with science? I would say a great deal. First let us remember that most of what we can properly call advance in psychosocial evolution has stemmed from new and better organized knowledge, whether in the form of traditional skills, sudden inventions, new scientific discoveries, technological improvements, or new insights into old problems.

Science is a particularly efficient method for obtaining, organizing, and applying knowledge. Though modern science is barely three centuries old, it has led to the most unexpected discoveries and the most spectacular practical results. Scientific method involves controlled observation of fact, rational interpretation by way of hypothesis, the publication and discussion of procedures and results, and further checking of hypothesis against facts. The use of the scientific method has proved to be the best way of obtaining fuller intellectual sciences; but this is a false restriction, which springs from the historical fact that scientific method could be more readily applied to simpler subjects, and so first became effectively applied in non-human fields. But it can be applied to all natural phenomena, however complex, provided that we take account of their special peculiarities and go to the trouble of devising appropriate methods for dealing with them.

Psychosocial Science

Today, the time has come to apply scientific method to man and all his works. We have made a piecemeal beginning, with psychology, economics, anthropology, linguistics, social science, and understanding and increased practical control, in all fields where it has been tried. It leads inevitably toward more and fuller truth, to an increasing body of more firmly established factual knowledge, and more coherent principles and ideas.

Science is often used to denote the natural so forth. But we need a comprehensive approach to the human field as a whole. We already have physical science, chemical science, and biological science: to deal with man as a natural phenomenon, we must develop psychosocial science.

The primary job of psychosocial science will be to describe and analyze the course and mechanism of psychosocial evolution in scientific terms. It will also include a science of human possibilities.

What are the possibilities of man and his nature, individually and collectively? How is their realization helped or hindered by different types of psychosocial environment? How can we estimate human fulfillment; in what ways and to what extent can it be promoted by changes in psychosocial organization? In particular, such a science will involve radical re-thinking of man's systems of education, their aims, content, and techniques.

The value of such an approach and such criteria is clear when we look at concrete problems. Two new challenges have recently appeared on the evolutionary scene — the threat of over population and the promise of excess leisure. The population problem obstinately resists solution in terms of power-politics, economics, or religion, but the criterion of greater fulfillment immediately lights it up and indicates the general lines of the policy we should pursue in reconciling quantity with quality of human life.

The new possibilities opened up by science are exerting two effects on psychosocial evolution. Increased scientific control over the forces of nature has produced a flood of new conveniences and comforts, and has led directly to death-control and the recent alarming increase of human numbers. But the knowledge that healthier and longer life is possible, and that technology can provide higher standards of living and enjoyment, has changed the attitude of the vast underprivileged majority: they are demanding that the new possibilities shall be more abundantly realized.

Limited Possibilities

The next step must be to grasp the fact that the quantitative possibilities are not unlimited. Unless present-day man controls the exploitation of natural resources, he will impoverish his descendants; unless he supplements death-control with birth-control, he will become the cancer of the planet, ruining his earthly habitation and himself with it.

The leisure problem is equally fundamental. Having to decide what shall we do with our leisure is inevitably forcing us to re-examine the purpose of human existence, and to ask what fulfillment really means. This, I repeat, involves a comprehensive survey of human possibilities and the methods of realizing them; it also implies a survey of the obstacles to their realization. Let me summarize the new picture of human destiny from a slightly different angle.

Man is the latest dominant type of life, but he is also a very imperfect kind of being. He is equipped with a modicum of intelligence, but also with an array of conflicting passions and desires. He can be reasonable but is often extremely stupid. He has impulses to sympathy and love, but also to cruelty and hatred. He is capable of moral action but also has inevitable capacities for sin and error.

As a result, the course of psychosocial evolution has been erratic, wasteful, and full of imperfection. It is easy to take a pessimistic view of man's history in general, and of his present situation in particular, where force and fear have become magnified on a gigantic scale.

Hopeful Process

But when we survey the process as a whole, it looks more hopeful. During its course, there has been progress. Progress has always been the result of the discovery, dissemination, or application of human knowledge, and human knowledge has shown a cumulative increase. Furthermore, the erratic course of past psychosocial evolution was largely due to man as a species being divided against himself, and not having discovered any single overriding aim.

There is now a dramatic change in process. The human world has become inextricably interlocked with itself: the separate parts of the psychosocial process are being forced to converge toward some sort of organized unity. We are at last able and indeed compelled to think in terms of a single aim for mankind, while our increasing knowledge is enabling us to define our aim in relation to reality instead of in terms of wish-fulfillment: our knowledge of our imperfections and limitations is helping to define the possibilities of our improvement.

This marks a critical point in history. We have discovered psychosocial evolution as a complex but natural phenomenon, to be explored and controlled like any other natural phenomena. Up till now, it has operated in erratic and often undesirable fashion, with self-contradictory aims. We now see that it could be transformed into an orderly mechanism for securing desirable results.

The idea of greater fulfillment for all mankind could become a powerful motive force, capable of influencing the direction of future evolution, and of overriding the more obvious motives of immediate personal or national self-interest. But it can only do so if it and its implications are properly understood, and made comprehensible to

the bulk of men, all over the world. For this we need not only an extension of science but a reorientation of education; not only more knowledge, but also a better expression and a wider dissemination of ideas.

We must not imagine that the fuller realization of possibilities will be accomplished without effort, conflict, or suffering. This is inherent in the nature of man and of the psychosocial process: so is hope.

The individual human brain and mind is the most complicated and highly organized piece of machinery that has ever existed on this earth. So-called electronic brains can perform extraordinary tasks with superhuman rapidity; but they have been given their instructions by men. The human organism can give instructions to itself; and can perform tasks outside the range of an inanimate machine. Though at the outset it is a feeble instrument equipped with conflicting tendencies, it can in the course of its development achieve a high degree of integration and performance.

How Shall We Use It?

It is up to us to make the best use of this marvelous piece of living machinery. Instead of taking it for granted, or ignorantly abusing it, we must cherish it, try to understand its development, and explore its capacities.

The collective human organism, embodied in the psychosocial process, is an equally extraordinary piece of machinery. It is the mechanism for realizing human destiny. It can discover new aims for itself, and devise new methods for realizing them; but it is still primitive and inefficient. It is up to us to improve it, as we have improved our inanimate machines. Our ignorance about its potentialities is profound; therefore our immediate task is to understand the first principles of its operation, and think out their consequences.

Thus the new vision we owe to science is one of real though tempered optimism. It gives us a measure of significance and rational hope in a world which appeared irrational and meaningless. It has shown us man's place and role in the universe. He is the earth's reservoir of evolutionary possibility: the servant of evolution, but at the same time its youthful master. His destiny is to pursue greater fulfillment through a better ordering of the psychosocial process. That is his extraordinary privilege, and also his supreme duty.

Our new vision assures us that human life could gradually be transformed from a competitive struggle against blind fate into a great collective enterprise, consciously undertaken. We see that enterprise as one for greater fulfillment through the better realization of human possibilities.

It is for us to accept this new revelation given us by science, examine it, and explore all its implications, secure in the knowledge that ideas help to determine events, that more understanding leads to more appropriate action, that scientific truth is an indispensable weapon against stupidity and wickedness and the other enemies of fulfillment, and true vision the parent of progress.

This article by Sir Julian Huxley, the distinguished biologist and writer, was originally delivered as one of a series of presentations on "The Future of Science" at the Day of Science at the Brussels Exposition and is here reprinted by permission of the author and "The Bulletin of Atomic Scientist," 1100 E. 58th St., Chicago, Ill.

AUTOMATED BAKERY

A four million dollar bakery plant, which officials of Kitchens of Sara Lee, Inc., call one of the most completely automated in the country, has been opened at 5353 N. Elston Ave.

From the time the ingredients which go into the making of the firm's cakes are delivered to the plant until the finished product comes out of the ovens, no human hands touch them as a result of the new type of equipment which has been installed.

Such products as fresh milk, fresh whole eggs, and fresh egg yolks are pumped from delivery trucks through stainless steel pipes into storage tanks. From the tanks the fluids are pumped directly into the bakery mixing machines.

In the 40,000 square foot processing area in the plant are especially designed, imported Swiss dough mixing machines that simulate hand mixing methods, as well as homogenizing machines for final mixing of coffee cake batters. Much of the equipment was designed especially for the new plant.—Chicago American, 12-22-'59.

There Ought to Be a Law

Dear Senator:

I see where there is a debate on in Washington over whether we are ahead of the Russians, even with them, or behind them. From what I gather, they are ahead of us with rockets, missiles, airplanes, artillery, and submarines; and we are ahead of them with B-52s and aircraft carriers. I think we are ahead on these things because the Russians don't make B-52s or aircraft carriers. In fact, the Russians don't seem to be making the same things we are at all, not since they copied our B-29s and found they were no good (which we found out even before they did). Anyway, if the experts can't figure out where we stand, how do you expect us common people to know what to believe?

Here is an idea which I think will make the problem a lot simpler and at the same time satisfy everybody concerned. All you have to do is pass a law which would make all the experts on these important problems get together in Washington, hold a secret meeting, and vote on the question. Then the side which got the most votes could be declared the winners and its opinion given out as the truth. In that way, nobody will be confused and we can all go about our business as usual. Since we are living in a democracy, that is the proper way to settle disputes. Don't you think so, too?

Sincerely yours,

BEETAL BRAYNE

P.S.: I don't think you should be afraid of worrying the people by telling them the Russians are ahead of us. They are more worried about other things than that, like income taxes and rising costs. I think we would be more happy if you would just let the Russians stay ahead and reduce taxes instead of trying to catch up with them by spending billions of dollars.

STOCK PILING

Washington (AP)—The General Services Administration was accused today of having spent more than 9 million dollars in unnecessary transportation costs.

The accusation was made by the General Accounting Office, which said the spending was in handling the strategic and critical materials program.

The GAO said the GSA did not select storage locations closest to the domestic source or the ports of entry for materials in excess of stockpile requirements at regular storage sites.

The GSA operates the storage end of the stockpiling program.

From July, 1958, through March, 1959, the GAO reported to Congress, about 40 million pounds of Ferro-nickel produced by the Hanna Nickel Smelting Co. at Riddle, Ore., were shipped to Hammond, Ind., storage center at a cost of $600,000. The report said there was sufficient storage at Riddle.

In the case of manganese, the report said, the GSA incurred shipping costs of about 7½ million dollars by transporting the mineral from Henderson, Nev., to storage depots in Atlas, Ohio, and Large, Penna., "although arrangements could have been made to store the materials at Henderson at a relatively low cost."

Manganese acquired from Brazil and delivered at Baltimore, Md., was shipped to Pennsylvania, the GAO said, although suitable storage space was available at the nearby government depot at Curtis Bay. Transportation costs were estimated at $800,000.

Chromium metal shipped into the Baltimore port by foreign concerns was sent to Warren and Marion, Ohio, and to Point Pleasant, W. Va., for storage despite the proximity of the Curtis Bay Storage Depot, the report said.

Is Everybody Happy?

Are you happy with the rat-race into which our society has degenerated or are you sickened by the evidence of its pattern of crime, insanity, preoccupation with material gain and endless pursuit of escapism? Do you enjoy the tensions imposed on you by the necessity of status-seeking at work, at home, and at play, so that even while resting there is no real relaxation except by the Milltown route? Are you appalled at the deaths on our highways which, in the past 40 years, exceeds American deaths in all wars including the American Revolution? Are you gratified at the billions being poured into outerspace programs while most of the important problems of this planet go unsolved? If you are happy with these conditions — stop reading this. But if you are tired of all this and more, in the most richly endowed of all the earth's land masses, read the following questions thoughtfully and try to answer them honestly.

Have you become morally exhausted by rigged TV, payola, exposed corruptibility of leaders and minions of law, piled onto deep-freezes and vicuna coats? Is your tolerance for distasteful and low-intelligence programs (interlarded with phony advertising) wearing thin? Or do you enjoy having your living room turned night and day into a carnival of hawkers shouting and singing their silly commercials? Have you caught onto how the Madison Avenue Thought Control Boys, with their thousands of psychologists, have captured the mass-mind with their mumbo-jumbo depth-probes to keep you bying—buying what you neither need nor want, for money you can't afford, in order to keep up with the Joneses who are just as sick of the whole thing as you are? Do you realize how vulnerable our mass-mind has become through allowing others to make our decisions for us: how unwittingly we have permitted ourselves to become mentally flabby while believing that we do all our own thinking? America is approaching a crisis, the scope of which is beyond any it has experienced. America's need is for all Americans to be increasingly alert, observant and able to make decisions.

Has it occurred to you that in the Price System, disease and old age are two of the most lucrative businesses? Are you getting by with 'crossed fingers' or do you shudder at the thought of meeting the cost of possible severe sickness, a major operation, or prolonged hospitalization? Do you realize just how thin the ice upon which most of us are skating? When a few pills cost as much as a payment on a grand piano, who can afford to be ill? Or for that matter to die?

Do you get a kick out of our inane political picture, considering it (especially during election years) as just another "real good show"? Or do you get nauseated as both parties give the same old pitch, camouflage the same old rotten planks with the same old whoop-dee-do and make the same old promises which will not, and cannot, be kept? Is your fortitude geared up to endure the coming months as, in press and on the air, the Democratic Tweedle-dees and the Republican Tweddle-dums each proclaim that the country most certainly will, if the other party "gets in," go to the dogs? But when, from all they tell you about each other, you come to the inevitable conclusion that neither party is competent, honest or even bright, will you, as usual, toddle down to the polls come November 4th and vote for the one you dislike the least? Heaven forbid that your 'divine right' of suffrage go unused even if it leads to voting for more of the same old mess!

Have you pondered the vicious cycle of rising prices which induce strikes for pay raises which are in turn soon off-set by further price rises? Do you wonder where it all will end? Do you realize that when Union heads don white ties and tails and sit down with Management heads, they too become Big Business and their prime interest is the continuation of their own prestige and power? Have you noticed that in promoting strikes these leaders somehow never get around to impressing their followers with the fact that, once the strike is over, many men will not return to their jobs because machines will have replaced them? And have you wondered at the lamentable stupidity on

the part of the workers in not recognizing and acting on this fact for themselves?

Have you thought what will happen when the 75% of our production plant, which management declares to be obsolete, is fully automated; when most of our offices have become giant computers operated with a minimum of skilled technicians; when most of our foodstuffs are vended automatically? Such automation is well under way and rapidly progressing! The hundreds of thousands who will be thrown out of work by this quiet but continuous trend will not be able to open up hot-dog stands along the roadsides (super highways being what they are) nor make a living out of selling apples on city street corners; and certainly in an era of shrinking job opportunities industry will not be able to reabsorb them. But have you figured where the money is coming from to keep them in 'rocking-chair' pay? Or what may happen if such pay is not forthcoming?

Do you deplore the highly profitable but incredible waste of our irreplaceable resources such as iron, coal and oil? And the equally revolting waste and misuse of our so-called surplus foodstuffs such as grains, butter and eggs paid for by American tax dollars, then either allowed to rot or to be dumped abroad so that a profitable scarcity is maintained at home? This, while counless numbers of Americans are living at sub-standard levels?

American enterprise prides itself on being competitive, but do you realize that the end product of competition is that ultimate insanity, war? The fact that war has become too horrible for most people to think about does not preclude the probability of one happening. The small nations now are capable of producing hydrogen or cobalt bombs with which a trigger-happy little dictator can set off a holocaust!

Do you feel complacent and remote from responsibility for the senseless rivalries, duplications of effort and monumental waste of our armed forces? In a country supposed to be under a democracy, in which the ideas of the individual are supreme, are you content to 'tend to your own knittin' while others 'tend to you? Or do you feel really concerned about it all even though you may not know what to do about it?

Do you shudder at the possible rebellion of our youth against a society which no longer needs any but the best prepared, while on the other hand our educational system, for the past several decades, has concrened itself chiefly with turning out educated mediocrity? Are you proud of the fact that many of our High School graduates can neither properly read, write, figure, spell or Think? Our youth has come a long way from the woodshed with its 'parental guidance' in self control and industry, and an equal distance from the strict scholastic requirements of earlier eras. And nothing has come along to take the place of these 'character-building' factors, except in time of war when fighting and dying is to be done! Their revolt against being displaced as useful parts of society is beginning to be expressed in so-called juvenile delinquency — a growing tide of vandalism and major crime. Youth will find ways by which to be noticed, be those ways socially acceptable or unacceptable. The recent report of J. Edgar Hoover that one out of every 11 Americans is involved in some form of major crime should shake every American to his foundations. Equally staggering are the reports of increasing insanity and general tensions throughout the nation. These are symptoms and warnings that our social system itself is delinquent — that it is cracking at the seams!

We all know that no competent builder erects a structure without an overall plan or blueprint. Yet, as we also know, our social system has no such overall plan. It 'just growed' into the monstrosity of inefficiency it has become. And not until an overall design is applied to the flowlines of both production and distribution, can we possibly be rid of poverty, ignorance, disease, insanity, crime and war. As long as these factors remain, none of us are safe, no matter how remote we may be from population centers or how secure we may feel. Ponder how asinine it is to produce an abundance of everything by the latest streamlined methods with the expectation that such an abundance will be distributed by a method over 2,000 years old; that is, by purchases from wages paid for by man-hours of labor. Man-hours per unit of production are dwindling to the vanishing point as machines steadily take over. For instance, some 50 years ago, over 1200 manhours were needed to build an automobile; a few short years ago only 36 were required. By the latest report, only 12 man-hours goes into the production of a car. As more and more automation machines are installed, fewer and fewer man-hours will be required to produce everything we use from refrigerators to airplanes. And with the loss of man-hours there are fewer dollars earned with which to buy the product of the machines!

If all of these questions and more have occurred to you, you have been looking for an answer. But you have not found that answer in your daily papers (not from the financial page to the gossip column) — nor on the radio or TV, nor in popular magazines nor in books on the best seller lists. Many if not all of these mediums tell you what is wrong! The printed page and the airwaves are filled with the warnings of preachers, teachers, politicians and analysts earnestly telling us what is wrong with our society and each blaming it all on someone else. But not one of them tells you what can be done about it! WHY — BECAUSE THEY DO NOT HAVE THE ANSWER!

The answer cannot be found in philosophy which many of us translate into the negative creed, "Thy will be done," and to which we cling even if the world is to be smashed to smithereens by madmen! It does not lie in the political expedients of our leaders, nor in our own apathetic "Let George do it" psychology, which gives them *carte blanche* privileges with our very lives. Nor is the answer to be found in the financial restabilization nostrums or in balancing the national budget.

The answer rests solely and squarely with the science and engineering, the twin creators of the giant and incomparable technology on this continent — a giant which has been held in bonds, however, by the shackles of Business, Finance, and the whole profit making system. But such technology demands freedom to install a coordinated system for both production and distribution without price or profit. This is the only way in which an abundance of goods and services can be disbursed to everyone without want, waste, or duplication of effort. To achieve this there must be a design! There is a design! Technocracy offers Americans the blueprinted design of a functional control — a Technate.

This design is in complete accord with our continental resources and with our technology. It is ready to be applied whenever Americans get sick of the mess we are in to demand that it be installed.

Technocracy does not ask that you hate someone. Not even the politician! Pity the poor guy, for he is up against a machine which politics is incapable of operating.

Desperation and panic are on their way here in America — and not far off! Only knowledge of the facts pertaining to the threat which hangs over all of us, and of what can be done about it, can prevent national chaos — chaos on such a fantastic scale that the loss of life and property would be inconceivable.

KNOW THE FACTS AND HELP SAVE LIVES! STUDY TECHNOCRACY!

—Jeanette DeLeon

The Standard Speech

Winnipeg (CP)—Postmaster-General William Hamilton said yesterday automation or mechanization in post offices never will threaten the job security of full-time professional postal workers.

"Machinery being introduced into postal operations is designed to assist the employee, not to replace him," he said at the annual meeting of the Canadian Employees Association.

"Automation will never cause financial embarrassment to any of our regular people," he said, adding that the association itself recognizes this view.

Officers of the association, he said, believe that new machines and equipment are essential if the post office department is to keep pace with the increasing volume of mail.

"Fifty years ago, when a post office encountered a mail volume too great to handle, the solution was simple. They just hired more people. But in our present times, this is becoming less and less practical. There comes a time when there is no room for additional people. . . .

"So machinery is a big part of the answer. We have to introduce equipment that will make each worker more productive. We need machines that will process more mail, faster, more accurately. . . .

"But machines need people, and we will never, in the conceivable future, reach the point where we will have a surplus of permanent qualified postal workers." . . .

—Hamilton Spectator, Sept. 23, 1959

How often has the man on the job been given this same line? No one should be naive enough to believe that industry or government would invest in new machinery unless it cut the cost of operation and increased the productivity and quality of the product. And one of the principal costs is labor. Think it over; only in an economy such as that proposed by Technocracy can the introduction of automation prove a boon to the population as a whole.

Ignorance, Apathy and Fear

The roadblocks that man has placed in the way of his own progress throughout history are many and varied, but generally they can be attributed to three negative mental states. These are ignorance, apathy, and fear. And the greatest of these is ignorance.

Ignorance means lack of knowledge. Without knowledge there can be no solution to any problem. The more facts that are available on a particular question, the more accurately can be predicted the line of action that is likely to produce the desired results. For instance, a man building a house will probably want protection against all extremes of weather he may encounter. In order to determine the kind and amount of insulation, he will need to know among other things the history of the climate of the region, and so on. He can then proceed accordingly.

Apathy means lack of interest. Even though knowledge may not be wanting, where there is no interest there is no initiative, no drive. This condition may result from such things as ill-health, malnutrition, hormone deficiency, and the like. Or it may be due to too-easy-living. Sometimes a man can be stirred to action by the admonition and example of another. Sometimes it takes the prodding of a 'kick in the pants,' a personal setback, to get him to do something for himself.

Fear means lack of courage. A person may be well-informed on an issue and he may be seriously concerned as to its outcome, but if he is afraid to take a definite position his knowledge and interest are useless. Sure, an individual who stands for something may suffer reprisals; he may face the obloquy directed against all non-conformists; even innocent children are often insulted for the 'sins' of their fathers and mothers. So what? Some things are worth fighting for! Somebody has to have the concern and the courage to do the pioneer work!

So it is with Members of Technocracy. They have had to overcome whatever apathy and fear were hindering them from looking into and doing something about the precarious social situation existing on the North American Continent today. They have had to bestir themselves to remedy their ignorance of the factors involved by studious application. And they enjoy doing it. As the saying goes, 'It's a picnic.' If one may be permitted to overstretch a metaphor, it is like one of those free picnics where the guests bring their own dishes and cutlery (their interest and courage) and the host provides the food (the knowledge).

The basic source of knowledge for Technocrats is the Technocracy Study Course book. Technocracy being by definition the application of the scientific method in the social field, it is appropriate that the Study Course opens with 'An Introduction to Science.' There the student learns what a fact is, the importance of exact defintion of words, what science means, and the significance of the postulates of science.

There follow twenty-two chapters, dealing in turn with three general topics: a study of the fundamental branches of science and of its industrial application, technology; an analysis of our present social system, the Price System, and of the disabling effect on it of the greatly expanded use of technology; and, finally, a description of the type of social structure and operation that Technocracy has found to be necessary to meet the requirements of this technological age. Included also is a discussion of human behavior.

Our social problem is basically one of distribution. Mankind lives by consuming goods and services. Under the Price System, these are distributed on the basis of price. Before the advent of the machine, goods and services were produced by hand. The supplies were therefore limited and a price structure could easily be maintained. In time, however, man came more and more to produce by converting the energy of coal, oil, gas and hydro electric power by means of his expanding technology. A condition of plenty was inevitable. The more he produced, the more difficult it became to distribute by means of price. Prices tend downwards in the face of abundance. They can be maintained artificially only temporarily. Eventu-

ally there comes a day of reckoning. Sooner or later a non-price system will have to be installed to replace the one that is becoming defunct in our part of the world. Technocracy's program is predicated on this prediction.

Instead of distributing goods and services by price, Technocracy proposes that we use energy units based on measurement of the energy cost of production of the things that we consume. Everyone would be issued Energy Certificates for use in obtaining whatever he wanted. An account of how this new method would operate is included in the Study Course, as well as a description of the functional social organization designed by Technocracy. Also, there is an outline of a new type calendar, and a survey of the many advances in all fields of endeavor that will be made possible by the adoption of Technocracy's social design.

In addition to studying the Study Course book, Technocrats inform themselves by referring to the volumes listed in its bibliography. They also read the Organization's pamphlets and leaflets, as well as its three periodical Magazines and the monthly research bulletin, Technocratic Trendevents. In addition, of course, they try to keep abreast of current trends through the various Price System news media; here the healthy scepticism that they invariably develop in the Organization stands them in good stead. Thus, in these various ways do they endeavor to lighten the burden of their ignorance. Their message to others is: 'go thou and do likewise.'

Incidentally, ignorance, meaning lack of knowledge, is not to be confused with stupidity, which means lack of intelligence. Lack of intelligence is a matter of heredity. Each of us is limited in intelligence, and none of us can be blamed for his or her limitation in this respect. Nothing could be done about it except, perhaps, 'the sterilization of some remote ancestor.' It could, no doubt, be corrected by improved human breeding on a long-term basis, such as is done with domesticated animals. But the prospects of mankind thus controlling its own evolution are rather remote at the present time, due to the foregoing factors of ignorance, apathy, and fear. Anyway, today's lack of a positive population policy is tending to lower the average level of intelligence rather than to raise it.

Technocrats often say, justifiably, when discussing any of the many dilemmas posed by the out-dated Price System, 'It will take a Technate to correct that situation.' Only with a government of skill will the best brains be devoted to coping with the questions they are most capable of understanding by virtue of ability, training and experience.

A study of Technocracy, 'the next most probable state of society on the North American Continent,' shows that its adoption will provide many positive benefits. They will stem from one revolutionary social advance, the elimination of poverty. All citizens will receive equal, high incomes. This will mean the end of slums, inadequate food, shabby clothing and economic insecurity. Everyone will enjoy the highest level of physical and mental health that science can provide; prevention of disease will be stressed rather than cured. Educational opportunities will be unlimited. The work week will be less than half of what it is at present. People will have longer vacations and will retire from work much earlier in their lives than now. In the new environment, crime will tend to evaporate. And the viability of this high-energy civilization will be insured by reduction in the wastage of our nonreplaceable natural resources through efficient utilization.

We can all do something for the New America. We can strive to replace ignorance, apathy, and fear with knowledge, interest and courage. Let us find a place in the Organization, Technocracy, so that we may combine our efforts in working toward the achievement of its goals, an orderly transition into the Technate of North America.

—John Sheldon

Something to Think About

Said an important U. S. official: "Something must be wrong somewhere when a nation of peasants — such as Russia — can emerge from a highly destructive war and within 15 years gain the strength to challenge the great modern powers of the world. It shows what a nation can do when willing to work, to accept the lack of creature comforts. What will happen within another 15 years, if the present trends continue, is something to worry about."—U. S. News & World Reports.

(When America attains a National objective, a sense of going somewhere instead of being satisfied with just holding our own, any such worry will disappear. We here in America have the opportunity to create a society which will surpass anything in the past or present world).

Something to Look Forward to

Although U. S. health and welfare plans now cover more than 8 million workers and have assets of about $1 billion, many of the plans are running in the red.

This warning was issued here today by Russell M. Tolley, president of the National Conference of Health and Welfare Plans.—

"The last year has seen a tremendous increase in pension programs where multiple employer collective bargaining contracts exist," he said.

"Unfortunately," said Tolley, "this increase has been matched by a rise of at least 8% in the cost of hospital and medical services. It has also been matched by a steep increase in general benefits to members.

"As a result," Tolley said, "50 to 60% of all health and welfare plans are now spending more money for benefits than they receive in contributions—thus digging into surplus."—

—L. A. Times, Oct. 6

Accumulating Problems

You can't budget without an income. Some people have asked what to do when machines steal their jobs. Automation is a complicated field to discuss in one article, so I will highlight the problem and offer my thoughts to those affected.

Defenders of the advanced machine say automation creates new but different jobs, and say it reduces cost to consumers. The final result will be good, they say.

Perhaps; but in the meantime problems are mounting. A factory in Dayton, O., operates almost without supervision. A short time ago it employed hundreds. Detroit will need fewer men to make more cars. Evansville, Ind., has a similar situation. In fact no part of the country will go untouched.

Clerical workers are getting jittery, too. Banks and insurance companies are becoming automated. As one executive puts it: "Our department heads used to be well rounded individuals, educated and inclined to leadership. Now our group leaders are more apt to be machine nurses—technocrats first-class.

It seems we are working feverishly to replace ourselves. One historian, always on the lookout for the decline of our civilization, used to speculate on from where the barbarians were coming. Now he thinks the machine is our barbarian.

At any rate those presently displaced by machines are largely the unskilled and semi-skilled.

You can scream to government for help and probably get nowhere, or you can adapt yourself. That means more education and a new approach to living.

It may mean taking a sales job. It may mean clerking or working at a filling station. Some jobs offer a greater future than factory work, provided you mean to stick and provided you are willing to temporarily take less money.

If you work partly on commission or get paid for new or increased business, you may enormously better yourself. . . .

(What good does it do to lock the door after the horse is stolen? Now that the jobs are going or gone, many newspaper writers are rushing into print with so-called solutions after having sat on the problem for the past twenty years. Now it can't be ignored and they would better serve by advocating the solution provided by experts such as the Technocrats who have lived with this problem since 1932).

L. A. Times, Oct. 7, 1959

Surplus Crops

Surplus crops owned by the Government head for a new high around $10 billion by early 1960. Agriculture Department officials indicated. Recent figures show the Government had $9 billion tied up in this fashion on September 30 — $1.5 more than a year ago. Last year's $7.5 billion September surplus rose to $9.1 billion by February. While over-all stocks continue to rise, Uncle Sam's holdings of surplus dairy products dwindled to the lowest level in seven years on October 31.

(For years, almost since the first world war, the politicians and financial master minds have been attempting to solve the problem of surpluses. Within the frame work of a Price System there seems to be no solution. Only with functional control, in which is is possible to balance production and distribution, is it possible to envision a sane solution).

White Collar Automation—

(Continued from Page 11)

certainly have a different reaction to his job than today's office employees. Faced with problems that appear insurmountable, he will almost certainly turn to some form of organization—and the probability is that the college-educated group will lead the parade.

John Diebold, an automation expert and head of a management consulting firm, is generally known as an optimist concerning the impact of automation. Yet, Diebold had this to say in a recent report on automation in business and labor:

"In the next few years, automation will clearly have its biggest and most immediate impact not on the factory or in the processing plant, but in the office. Computers in an office—are going to be like 'bulldozers in the construction industry.' It is high time for the office is ripe for revolution.

The coming white collar crisis spells both hope and peril for our world. How the white collar worker answers the problem of a changing employment situation may well determine the shape of our society. No individual or group, no matter how insulated from the main current of our times, will long remain unaffected by the problem.

Transportation

Hamilton Spectator, Montreal, Dec. 31, 1959 —CPR President N. R. Crump said last night "further curtailment" in railway passenger service was indicated in face of growing public preference for air travel on long trips and private car travel on short jaunts. . . .

(There has been no major improvement in mass transportation for many years. As revenues declined, due to competition from other modes of travel, the only remedy used was to raise rates, which in turn made competing ways more desirable. The same method has been applied to city transportation. Los Angeles is an example. As the public transportation system deteriorated, people used their automobiles until now it is a major feat to get to and from work without an accident. Millions have been spent on Freeways which are obsolete before they are completed. The MTA has again raised fares which will encourage more people to use their cars and so on ad infinitum).

Effect of Dogmatism on Critical Thinking

(Abstract of a paper presented at the AAAS meetings in Chicago, December 1959, by Dr. C. Gratton Kemp, Michigan State University.)

The failure of many of our gifted students to measure up to their potentialities is a pressing concern to educators. This concern was increased in depth and urgency with the recognition that many fall below their possible level of performance in the solving of problems.

An explanation was sought in the effect of emotional variables on thinking, perception, and memory. It was hypothesized that this emotional influence would cause the individual to withdraw, distort, narrow, or fail to consider all aspects of the problem.

To test this hypothesis, 500 students from church-related colleges and state universities were classified by the Dogmatism Scale as high or low dogmatics. They were then administered 50 recognized problems in critical thinking. The results gave clear and significant evidence of the superior performance in critical thinking of the open-minded (low dogmatic) over the closed-minded (high dogmatic).

Highly dogmatic individuals lowered their performance by failure to encompass all facts in reaching a decision, by responding in accordance with their resident value patterns, and by reaching a solution which gratified their need for security in their beliefs.

Improved teaching methods which provide more training in critical thinking will not succeed in substantially raising the level of performance. Partial, biased, superficial, or completely misleading solutions still will be submitted.

Educators must become more aware of the adversely pervasive effects of dogmatic thinking. When this has been accomplished they can concentrate their efforts on the understanding of interpersonal relationships which encourage it and on the processes for effecting its diminution.

The TECHNOCRAT STAFF

Leland Proctor.....Editor
Richard Burnett.....Assistant Editor
Kenneth Wolford.....Research Editor
Maysie Foster.....Circulation Manager
Marjorie T. Clouse.....Business Manager

TECHNOCRACY

North America's Only Social Dynamic

WHAT?

Technocracy is the only North American social movement with a North American program which has become widespread on this Continent. It has no affiliation with any other organization, group or association either in America or elsewhere. The basic unit of Technocracy is the chartered Section consisting of a minimum of 50 members and running up to several hundred. It is not a commercial organization or a political party; it has no financial subsidy or endowments and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsidence allowances. The annual dues are $9.00 which are paid by the member to his local Section. Members wear the chromium and vermillion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHEN?

Technocracy originated in the winter of 1918-19 when Howard Scott formed a group of scientists, engineers, and economists that became known in 1920 as the Technical Alliance — a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934 Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundation of the present Continent-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHERE?

There are units and members of Technocracy in almost every State and in every province in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces. Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the location of the nearest Technocracy unit.

WHO?

Technocracy was built in America by Americans. It is composed of American citizens of all walks of life. Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this Continent. Membership is open only to American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective office or active office in any political party.) Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher, or housewife—so long as you are a patriotic American—you are welcome in Technocracy.

The TECHNOCRAT

Offering to the American public a medium by which it can learn the facts regarding the transition period in which we are moving toward a New America of technological abundance.

PAMPHLETS

Introduction to Technocracy	25c	Continentalism—The Mandate of Survival	15c
Make Way for Social Change	15c	The Culture of Abundance	15c
Man Hours and Distribution	15c	'There'll Always be an England'	10c
The Energy Certificate	15c	'Our Country Right or Wrong'	15c
Science vs. Chaos	10c	America Must Show the Way	15c
		'The Sellout of the Ages'	10c

We have available additional copies of "Stampeding to Disaster," at 25 copies for $1; this timeless article is a good contact piece.

March, 1960 Whole No. 193

The TECHNOCRAT is published quarterly (Mar., June, Sept., Dec.) by a Managing Board at 8113 So. Vermont Ave., Los Angeles 44, Calif. Entered as second-class matter April 12, 1938, at the post office at Los Angeles, California, under the Act of March 3, 1879. The TECHNOCRAT is an authorized publication of Technocracy Inc., Howard Scott, Director-in-Chief, Rushland, Pennsylvania. Subscription rates: 25c a copy or 4 issues $1.00, payable in advance. Send all correspondence to (and make all checks and money orders payable to) The TECHNOCRAT, 8113 So. Vermont Avenue, Los Angeles 44, California.

Telephone PLeasant 1-0828

Not responsible for unsolicited manuscripts unless accompanied by return postage. Entire contents copyrighted 1959 by the TECHNOCRAT.

SUBSCRIPTION ORDER

To: THE TECHNOCRAT
8113 So. Vermont Ave.
Los Angeles 44, Calif.

☐ This is a new Subscription.

☐ This is a renewal Subscription.

Enclosed herewith in $..... to cover subscription(s) to Technocracy Magazines for.... years.

START WITH ..... ISSUE

(All three publications are quarterlies, but so rotated that one appears each month.)

Send to:

ALL THREE MAGAZINES—
☐ 12 issues (1 year), $3.00

THE TECHNOCRAT—

TECHNOCRACY DIGEST—

NORTHWEST TECHNOCRAT—

(Foreign rates, other than Canada, Mexico, and U. S. Territories 20% additional to above rates. Canadian orders payable in U. S. funds.)

MEMO FOR 1960

"The first duty of any political party upon taking office is to so operate the techniques of the political office as to assure a modicum of stability and satisfaction in the day to day operations in the area under its jurisdiction, primarily for the purpose of laying the proper pipeline and building up its political machinery for re-election for another term. Any interest in appearing to solve or to seek a solution to any problem must be subsidiary to its prime purpose of perpetuating itself in political office . . .

"During the last 25 years Technocracy as a body of thought and as an Organization has come through the greatest depression and the greatest wars in history, its vision unsullied and its strategy uncompromised. It stands alone far, far from the political party seeking election to political office. As technology moves up on this Continent in the post war years, only Technocrats and Technocracy will have the satisfaction of seeing the historic parallelism of events confirm our operating design for this Continent as the unique solution for the social problems of our people and our time."

(Howard Scott in 'America Outward Bound')

— SECTION STAMP —

JUNE '60

The TECHNOCRAT

PUBLICATION OF TECHNOCRACY INC. • LOS ANGELES • CALIFORNIA

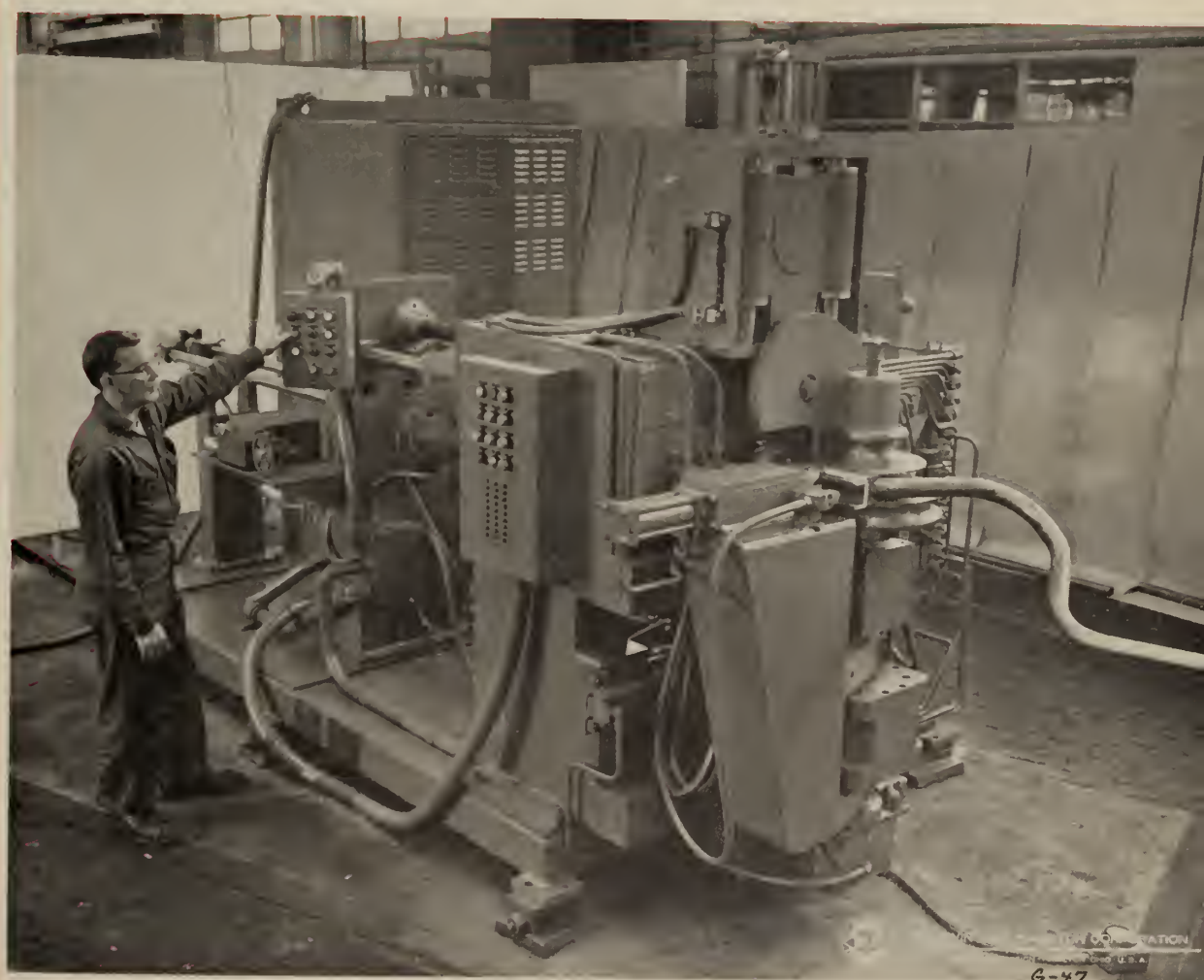
IN THIS ISSUE:

- Who Shall Lead Social Change
- Free Health for the Old Folks
- The Dilemma of the Thinking Man
- What Will the Sixties Bring?
- Research Bulletin
- An Open Letter to Wm. Winter
- Specific for Frustration

NEWS MAGAZINE

Whole No. 194

25 CENTS



The TECHNOCRAT

JUNE, 1960

Free Health Service for the Old Folks?

In this election year, the politicians are attempting to lure the votes of the old people with proposals of one kind or another to provide subsidized medical and hospital assistance for *some of those* over 65. The people who need medical and hospital service the most are often the ones least able to pay for it; these are the people past 60. The Forand Bill before the House of Representatives is a gesture in this direction. A more feeble proposition is the electioneering gimmick of the Vice President, suggesting federal assistance for destitute old folks in the purchase of health insurance — actually a subsidy for free enterprise Insurance.

The politicians have made sure, naturally, that their own future welfare shall be liberally subsidized with public funds — through lush retirement pensions — and with no poverty provisos attached. But to provide minimal assistance to old folks in general, even to the extent of the mild proposals of the Forand Bill, brings forth screams of 'socialism' from political ranks and vested interests. Still, the old folks have the vote and something must be done to wangle that vote. So various schemes are afoot to proffer to the oldsters the LEAST that will not arouse resentment in this bloc of voters. It appears that most votes are influenced by economic self-interest, and the votes of the old folks is no exception.

However, the health racket has become the Number One profession in this country from the standpoint of lucrative returns and bourgeois prestige for the practitioners, having moved ahead of the legal profession in recent years. Hence, the economic self-interest of the professional medicine men rebels at any suggestion that gratuitous health service be provided anyone, including the destitute old folks; it might undermine the 'dignity' of the profession. 'If they can't pay, let them die' appears to be the usual reaction of these good people. What hospital or clinic will accept patients who are not able to pay on the barrelhead at the time of admission? What medical doctor will check a sick person's ailment before he checks his pocketbook? (There are some, but not many.)

Just to illustrate the sad status of the health service in the good old U. S. A. at this time, we shall relate a true incident that occurred in one of the 'better' cities of California recently. A man who was traveling through that state had run afoul of some spiny plant on the desert and carried an annoying prickle in his finger, the point of a spine which had broken off beyond easy reach. Having parked in this city, he decided to get assistance in the removal of this minor affliction. Naively, he went into a drug store, figuring it had the proper instruments, antiseptics, and skilled personnel for performing such a minor good deed. He was told that drug stores did not provide such services. He was referred to a clinic several blocks away. He tried two more drugstores with the same result. So he walked down to the clinic. After presenting his case to the receptionist, he was asked if he were a member of 'the association.' He had never heard of the association named. Whereupon, he was promptly told that his prickle could not be removed at *that* clinic, even though he was willing to pay for it. He then asked what he had to do to get it removed in that city. The nurse told him to call up the medical association and they would refer him to some physician near where he was parked and he could call said physician for an appointment. But it was a Saturday afternoon — and you can guess the rest. He finally contacted a friend who had a pair of

continued on page 26

June, 1960

The TECHNOCRAT is published quarterly by a Managing Board at 8113 S. Vermont Ave., Los Angeles 44, Calif. Entered as 2nd class matter April 12, 1938, at the post office at Los Angeles, Calif., under the act of March 3, 1879. Subscription rates: 4 issues $1.00; 12 issues $3.00.

Whole No. 194

Who Shall Lead Social Change?

When the people of an area are faced with the prospects of social change, the question naturally arises among those who have a scheme or program of change, who shall lead the new regime? It is at this point that many proponents of social change or reform become fouled in strategic error. They fail to note the lessons of history.

One strategic error resides in the belief that the leaders of the Old Order may be converted to, and lead, the installation of a New Order. This belief is disastrous to those who rely upon it. It is easy for those who are naive in the ways of social change to make this error. They see a few individuals entrenched in positions of power and authority; and they acquire delusions that these are 'honorable and reasonable' men. Further, they kid themselves with the argument that these men have 'administrative experience' and 'understand organization.' The first part of this error, then, is belief in the fallacy that acquired skills can be transferred from one field of activity into another.

The second part of the error is the assumption that all one has to do is approach the leaders of the Old Order with the proper combination of words. It is supposed that if these elite personages are 'told the truth' they will see the light and become enthusiastic advocates of social change, carrying the banners of the New Order, and bringing into play all their authority and resources, as well as a large following of subordinates. Many fiction stories have that thesis as part of their plot, where the leaders suddenly become converted to goodness and right and, forever after, are the champions of a new social order. But it never happens that way.

A quick survey of leading political figures in American history will reveal that none of them, once in a position of power and prestige, ever changed his basic attitudes and policies. Let us briefly check a few: George Washington remained a Virginia Gentleman to the end; even though he changed sides, politically, he never changed his fundamental social concepts. Benjamin Franklin was ever the smoothie who double-talked dissident elements into compromises; and, although he was a fair editor of a popular periodical, he was not a leader of a new social order. Andrew Jackson was always the rough-shod man of temperament and direct action, strongly partisan to the end; he is credited with introducing the Spoils System into American politics. Abraham Lincoln was an astute compromiser, adept at delaying decisions and equivocating as long as possible; he represented interests which led to a division of the country and a disastrous internal war; and his policies favored business enterprise and the pacification of the multitudes with platitudes and small handouts. Theodore Roosevelt was an eager-beaver adventurer, with an upper class ego and attitude—a dynamic front man. Woodrow Wilson was a scholarly gentleman, devoted to legal propriety and the sanctity of investment values; and he was sufficiently egocentric and tyrannical to lead the country into war after being re-elected on a platform of 'keeping the country out of war.' Calvin Coolidge, Herbert Hoover, Franklin Roosevelt, Harry Truman, Robert Taft, Adlai Stevenson, Dwight Eisenhower —none of these has shown the slightest interest in changing the system (although F.D.R. showed greater facility for expediency manipulations). Most of the past political leaders have been standpat guardians of the status quo, devoid of social ideas and ideals and without glamor.

One can readily understand how futile and ridiculous it would be to try converting such a staid disciple of predatory free enterprise as Herbert C. Hoover to any form of mutualist economy in which all citizens shared equitably in the proceeds. Such personages have their stake in the status quo; and, as is typical among human beings, self-interest comes first. 'What's in it for me and The Boys?' is the guiding principle of most human conduct in the social field. But many men who have reached high places through political pull and financial manipulation have also learned to affect a condescending smoothness in their conversation which is readily mistaken for sympathetic understanding by the hopefuls. So the promoters

of reform movements may entertain the thought that the Big Guys really have the interest of the people at heart; that all that's needed is for them to be told the facts of the situation and shown the way to a better life and they will welcome it as their own. If only the statesmen could be told—if Khrushchev could be told, if Eisenhower could be told—the drift to world disaster could be quickly halted, so runs their hope-filled enthusiasm. A short generation ago, the urge was to 'tell' Hitler, Stalin, Churchill, and Roosevelt. But, of course, even then, these men were beyond 'telling.'

Another fallacy is the supposition that the public is reasonable, and convertible to social change with rational ideas. If you have the correct formula for a new and better social order, so the reasoning goes, all you have to do is make it known to the public—through newspapers, magazines, radio, television, public meetings—and the job virtually will be done. But the public is stubbornly conservative and irrational when it comes to major matters of social concern. If the public can be aroused at all, it must be for some simple, immediate objective which is of apparent concern to the people and over which they have been goaded into an emotional fervor. The public is not a forum of reason and light. It responds reluctantly even to action against extreme abuse and not at all to merely suggested improvements. (It may be aroused by a campaign to save the life of a condemned hoodlum, or to save a neighborhood from colored (or white) intrusion(but not by a rational program to save humanity.)

The public does not seek leaders; it seeks idols. Heroes are named by circumstance and fortuitous publicity, and they are accredited by acclamation of the mob. Qualities of social leadership are irrelevant to the rise and status of a public hero.

In the time of crisis, the established leaders of the status quo are unable to adapt to new circumstances. They have their attitudes and behavior fixed with respect to the values, circumstances, and amenities with which they have been associated as leaders. When a crisis arises which invalidates those values, drastically alters those circumstances, and turns those amenities into useless and meaningless gestures, the old leaders are completely flummoxed; the suicide rate among them soars. Even an adjustment in the economy, such as the one precipitated by the Wall Street crash of 1929, upset the equilibrium of many big shot financiers, and oblivion was easier for them to face than a personal adjustment to the changed conditions. When World War II came to our shores, our political, financial, and military leaders reacted in accordance with the lessons they had been taught about World War I; and they never learned to behave any differently. Ingenuity and new ideas were frowned upon and their authors relegated to the sticks. The war was fought with public debt, business enterprise, politics, massive troop recruitments, and obsolescent weapons.

As the rules of the social order change, new leaders must arise to promote and administer the new patterns. For example, the introduction of the bomber plane into warfare was resented and obstructed by the old line military brass. It took a new and 'daring' leader in the person of General 'Billy' Mitchell to advance it as a major weapon. General Mitchell proved the effectiveness of the bomber in destroying specific targets. After lackadaisically accepting the bomber, World War II generalship did not advance beyond the concepts of Billy Mitchell; rather, the war command stifled the advancement of any new strategic use of the bomber plane. The so-called Strategic Air Command was mentally stuck with the old strategic concept of military conquest that had prevailed in Europe through many centuries—rubbleize the cities. We entered World War II with that strategic concept and we came out of the war with it unchanged. The 'strategic thinking' about the next war is still obsessed with a program of obliterating cities.

A man trained for a program of military operations continues to think in terms of military action as a means of persuading others to come around to his way of thinking. Hence, a military leader is worse than useless as a social leader under peacetime conditions. He may be somewhat useful if kept on a stand-by basis ready to function in case of emergencies which demand the drastic measures of martial law. But on the whole, peacetime is a 'bloody bore' to a military man. He tends to yearn for the 'opportunities for greatness' which can come only with another war. He is conditioned to the acceptance of mass casualties and to operate under autocratic rule; hence, he tends to be impatient with procedures which do not permit casualties and which cater to 'human rights.'

A financial tycoon achieves his status of preeminence from the successful manipulation of money and negotiable papers. His world is one of monetary values. Should he be faced with a situation where monetary values became meaningless and functional considerations became all-

important, his 'world' would collapse and he, as a leader, become nobody. The financier certainly is not one to lead a social order that is designed to operate without money or its equivalent.

Popular heroes in the fields of entertainment, sports, and politics may become useful, at most, as masters of ceremony; but, unless they also have other qualifications, their roles as social leaders will not go beyond that. Such political aspirants as Adlai Stevenson, John Kennedy, Hubert Humphrey, and Harold Stassen are glib frontmen; but they are not great social leaders, and certainly they have nothing to recommend them as leaders in a new social order. An Elvis Presley may be a small-time entertainer of bored teenagers, but that does not make him a social leader. The same thing could be said of Charles Lindbergh, Mickey Mantle, or Princess Margaret, albeit with slightly different wording. Popular heroes (and heroines) select their scripts from the archives of the ages and play to the grandstands.

When we consider the 'Prima Donnas' of social change, we may easily fall into the error of assuming that the principal agitator — the voice and symbol — of the 'revolution' is the logical leader of the new order or the new regime. Such has rarely been a wise choice. Such 'Prima Donnas' find their place as proponents or fighters for the *change;* their forte is not that of administering an *established* order. A glaring recent example of this 'mistake' is that of Fidel Castro in Cuba. He is completely lost when he is not fighting to overthrow something. Alexander the Great is reported to have lamented the 'fact' that there were no worlds to conquer. Ghandi of India was a proponent of protest and change, not a leader of a stable society in a dynamic age.

Stalin of Russia could never 'graduate' from the role of gangster-like Boss, whose position and power was maintained through the technique of autocratic decree and the purge. But fortunately (for him), the situation was desperate for most of his lifetime and he had the saving grace of being realistic and simple in his major objectives; and fortunately (for Russia) he did permit, although belatedly, the development of heavy industry. This last was a major factor in saving the East from a fascist defeat and the imposition of Western Culture.

Nasser of Egypt is the 'Prima Donna' of a status quo, but in no sense is he the leader of a new social order. . . . The new leaders of Black Africa have yet to prove themselves capable of taking newly liberated areas, with a population of backward people and scant technology, and organizing them into a vital, dynamic society.

The most successful leadership in the field of revolution and social change appears to be that of China. The revolutionary movement in China was massive; it was fed by desperate refugees from severe oppression; it was forced to survive and function for a long period under difficult conditions including harassment; and it involved organization and administration as well as struggle. It trained a large cadre of leaders and administrators free of the concepts of the Old Order. When it gained control of China, the leaders were prepared to establish and administer a new social order; and they had the strategic sense to alter the physical setup beyond the point of return to the Old Order. Its acceptance of the communistic political doctrine served as an expedient for gaining outside help for a radical program; and it served as an antidote for the reactionary predatory enterprise doctrine which the Kuomintang regime had adopted, perhaps largely for the same purpose. It is yet to be seen if the Chinese leadership can successfully administer the huge population, area, and growing technology of China under dynamic conditions of peace and social stability with the handicap of a moralistic political ideology — after the fervor of revolutionary change has run its course.

In North America, the preparation for social change has been more extensive than anywhere else, but it has been covert and unintentional. This Continent has trained a large cadre of administrators for the New Order, but most of them don't know it yet.

What type of leadership would a new social order on this Continent require?

First, let us specify those which can be dispensed with, as being unsuitable or useless. We can eliminate from the list of 'candidates' for leadership in the New Order the leaders and figureheads of the Old Order, including bankers, financiers, businessmen, political statesmen, generals and admirals. Likewise, we can scratch the popular heroes, Political aspirants, and the 'Prima Donnas' of social change. Let us add to this list, without comment, the moralists, philosophical idealists, and evangelists; and we can toss in the confirmed liberals for good measure.

Since all social operations are physical and metrical, the new leadership would have to be such as can, effectively and efficiently, coordinate and

supervise physical operations of a large and complex design. In other words, they would have to be technical men. Their primary function would be that of dealing with energy and material things; and, secondarily, they would concern themselves with the people. Even then, their treatment of the people must be largely from the standpoint of their being physical devices — consumers of goods and services.

If this specification sounds 'cold and inhuman' to the moralistic liberal, it is because he is reveling in a dream-world of ethereal values and is not thinking in a world of matter and energy.

When electricity is introduced into a community for the first time, it provides innumerable benefits to the human inhabitants. But its introduction and administration considers only the physical problems and treats the inhabitants only as consumers of electricity. There is no concern among the technicians as to the creed, race, politics, or morals of the users of the electricity; and the electricity itself has no sentiments about how or by whom it is used. The only things the technical administrators want to know is, how much electricity is to be required by the community and in what form. (Under the Price System, the regulators of men want to know also: Who is going to pay for it, and who is going to pocket the profits? Is any of it going to be used for illegal or immoral purposes? Is it good for people to have electricity available to them? Is it right to introduce electricity into the community and deprive people who have investments in pre-electrical enterprises of their established predatory advantages? Will it interfere with national 'defense'?)

In a similar way, the administrators of the Transportation Sequence must concern themselves with the establishment and maintenance of adequate transportation service. Other than this, they must plan in accordance with economy of materials and energy and with the training and functional alignment of the operating personnel. Their function shall not be that of promoting or protecting investment values and profits, of providing upper and lower class services, of collecting fees, of determining financial feasibility of maintaining service, or of handling litigation with respect to property rights and liabilities. The Transportation Sequence Director should be concerned only with how much material and how many people must be transported, from where to where, and how fast.

So it is, all down the line of social operations. The people who count for the most are those who understand the principles and mechanics of controlling energy and materials. They are the ones who will be most useful to the community and the Continent. Without them, even now, our way of life would collapse. The function of the leaders of the future (though 'leaders' is hardly the proper term to be applied to them) will be to integrate and coordinate the physical sequences.

The distribution of goods and services would be the major point of contact of the leadership with the people; and its effectiveness would be the basis on which that leadership would be judged by the people.

Perhaps there still will be big-time popular entertainers; although this is not certain once the incentive and value of promoting named personalities is omitted from the entertainment service. The number of persons participating in Entertainment most likely will be much increased, while the present practice of publicizing and promoting a few of them into popular idols for the sake of 'taking' all that can be squeezed from the public will be passe. Those that are especially good, hence popular, can limit their appearances to a few high quality performances, neither burning themselves out nor satiating the public with numerous mediocre appearances, since box-office take will not be a compulsive factor.

Those who now go into politics may, then, find their place as masters of ceremony, where they can be out in front of people and be expansive with their personalities. But where the present bankers and financiers would fit in is dubious; perhaps, retirement would be the simplest and kindest fate for them. The military brass may as well 'fade away,' since there will be no banks or corporations for them to serve as chairmen of the board. The time when elite personages, pompously decorated with gold braid and martial frills, were properly the leaders of men and commanders of action is past. A 'future war' fought with A to Z bombs, carried by intercontinental rockets fired by men hidden deep in the ground at secret and remote locations would have no use for pomposity and gold braid.

In a functional society, the leaders need not be conspicuous to the public. Why should the Director of the Power Sequence, for example, make speeches, appear in parades, or attend ceremonial banquets? Why would it be important for the public even to know who he was? So long as the Power Sequence functions properly, that is all

that really matters. By the way, who is the production manager of the Utility that furnishes you with power and light now?

The Directors of the New Order will not be names that now reach the public via newspapers and television. But already they are being trained in the Sequences where they will function. In the Technate, the function rather than the personality will be the important thing.

As for who shall lead the change-over from the Old Order to the Technate, that will be determined by the time and nature of the event. 'Men do not make events; events make men.' The Technocrats are not asking for that job. Their function is that of promulgating an idea — a social program. When that program is adopted, their work will have been accomplished. The Program itself specifies the qualifications of those who must direct its installation and operation. Their names, race, or 'ancestry' are not important to us now.

What is nedeed right now are men and women who can function in an Organization devoted to the promulgation of a program for North America that is demanded by the advanced energy state of our society. The opportunities for advancement are limited only by your capability on the job in whatever function you choose. Your previous (or present) condition of servitude in the Price System is no particular recommendation or hindrance (except that politicians are excluded on the basis of probability that their past conditioning has rendered them unfit for useful function in Technocracy). The remuneration is not attractive: and social prestige in the status quo is not guaranteed.

But the future of North America depends on what is done now and on how well is is done. Technocracy Inc. cannot provide you with a Position, but it can provide you with an opportunity to find your highest level in a dynamic and functional Organization.

—Wilton Ivie

Tunnel Diode

New York, Mar. 3—The tiny transistor, current king of the electronics world, may eventually be deposed by an even smaller device known as the tunnel diode.

The newcomer performs some of the same jobs as a transistor and does them better, faster and cheaper. The tunnel diode will have a wide range of application in defense, in industry and in the home. It is not likely to replace the transistor in all applications, but will supplant the older device in many areas and supplement it in still others, scientists believe. Furthermore, because the tunnel diode can be used in a number of places where the transistor cannot, the new device also poses an additional threat to the older vacuum tubes.

The new development promises, among other things, faster, cheaper electronic business machines, improved television reception in rural areas and better and more compact communications systems for space vehicles.

—The tunnel diode was first discussed in the U. S. in January 1958, in Physical Review, a technical journal, by 34-year-old Leo Esaki, a Japanese physicist.

Micro-Modular Circuits

New York, Mar. 18—General Electric Co. said its tiny micro-modular electronic circuits are ready for use in such commercial products as a computer no larger than a cigaret package.

G. E. will demonstrate such computer circuits at the Institute of Radio Engineers show here next week.

The circuits are composed of ceramic and metal discs which perform the functions of vacuum tubes and transistors, among other electronic components. A stack of the discs the size of a cigaret can do the work of 44 electronic components, G. E. said. — Use of the circuits requires completely new designs. The circuits must be custom built.

The circuits are called thermionic integrated micro-modules, or TIMMS. In addition to their small size, their advantages include "thriving on heat" and resisting atomic radiation. Such devices have operated in an atomic reactor for 1600 hours with no deterioration. First application of the circuits probably will be in space vehicles. The devices also could make possible airplane guidance systems as small as the Manhattan telephone book, G. E. said.

Now A Cow Conveyor

The story and pictures are here reprinted with the permission of The Furrow, a John Deere bimonthly publication.

When The Furrow visited with Robert Willis, owner of Victoria Guernsey Dairy, welders were still adding finishing touches to his unusual — yet practical — milking system. Designed and built by H. C. Cain, the cow conveyor is a marked departure from most parlors being installed today.

With the conveyor, milking 285 cows is a three man job: one man herds cows into soaker where they are sprayed to wash off loose dirt. Just before each cow steps on the slow-moving (thirteen feet per minute) 107-foot-long belt, a partition swings down from above to separate her from the cow ahead, and a small trough in the partition is automatically filled with feed. A milking machine on overhead track reaches the second man just when each cow does. He washes and examines udder, then puts on milker. The third man removes milker just before cow steps off conveyor, ending her 8-minute ride. Cow-wise visitors always ask how cows were trained to ride conveyor. Willis usually answers with this understatement: "We had some fun for the first few times." Time will tell whether or not this conveyor has charted a new course for the large dairy.

Before entering milking area, 50 cows are held in this soaker and sprayed thoroughly to wash away loose dirt.

Conveyor moves past man who washes udders and puts on milkers. He has controls for system at his finger tips.

Harold Willis points to pound morker an gloss contoiner. Note thot each milker hos separate motor.

About as outomatic os you can get.

There Ought to be a Law

Dear Senator:

I have come up with an idea which it seems to me would solve most of our worst problems. For instance, there is the food surplus problem; then, there are too many people traveling the highways mainly because they don't like to stay around home; and there is the danger of millions of people getting killed with atom bombs because they live too close together in crowded cities; and there are rumors that another depression is on the way. I think all of these things can be handled in a very simple way.

All you have to do is pass a law which would require everybody with a separate house to have one acre of ground to go with it. This would spread the people over much more territory, and that would use up a lot of farm land and reduce the size of the crops which would do away with the surpluses. It would scatter the people out more, so fewer of them would be exterminated with an atom bomb; and it would give them more room to build fallout shelters. With each family having an acre of ground to look after, they would have to stay home more and not go joy-riding so much, and that would save on gasoline and highway accidents. It would also cause a real estate boom, which would help bring back prosperity. Also, with more ground, people would want bigger and more modern houses to go with it, and they would try to get better jobs and work harder to pay for it.

So you see how one simple little law could help the people in lots of ways and be good for business too. Also it would bring in more taxes for the government. The government could loan money to the people who couldn't afford it and they could pay it back over the next fifty years or so.

Sincerely yours,

BEETAL BRAYNE

RESEARCH BULLETIN

Dallas, Tex., Mar. 8—The S. S. Mariposa, a steamship with hefty hunks of frozen beef stacked in its cavernous holds, will sail from Sydney, Australia, tomorrow, stop at Auckland, New Zealand, to take on more meat, and then set a northeasterly course for San Francisco.

Thousands of miles away, on a rolling windswept prairie west of Cresson in Central Texas, A. W. Slocum, a grizzled, lifelong rancher, will ponder the vessel's voyage toward the Golden Gate with considerable distaste.

"I'm feeding 2500 head of cattle out there," Rancher Slocum remarks, nodding toward the snow blanketed rangeland outside his snug ranch home. "I figure I'll have to take less money for them this year, even without considering imports. "And imports," he addeds, "could flat ruin us." (Such are the vicisitudes of the Price System.—Ed.)

As Congress takes up Ike's challenge to find a new approach to the farm surplus problem, early signs suggest 1960 will be another year of heavy production. Weather in Kansas, the No. 1 wheat state, has been so favorable that one authority, with a record for accurate forecasting, now looks for a 230 million bushel winter wheat crop. The Government on Dec. 1 forecast a 190 million bushel crop.

Cotton farmers may plant 16.3 million acres this year, up from 15.8 million in 1959, unofficial forecasters say. Aided by ideal weather, production could climb a million bales above last year's 14.5 million bales, they figure. Hybrid corn sales by major suppliers surpass last year, posing the prospect of plantings heavier than the 85.5 million acres on which 4.3 billion bushels were grown in 1959.

Wheat, cotton and corn are the largest crop surpluses, accounting for nearly 80% of Uncle Sam's $9.2 billion crop hoard.

DeKalb, Ill., Mar. 3—Most unsettling to backers of the Benson plan is the attitude of farmers, who believe they must compensate for lower supports by heavier plantings. Of 41 farmers interviewed in DeKalb County, Ill., a typical corn belt area, 10 says they will increase corn plantings this year, 30 say they won't cut back and only one plans to reduce corn acreage. Farmers can boost corn output without actually planting a greater number of acres, and some plan to do just that. For instance, cattle feeder O. C. Swackhammer of Tarkio, Mo., plans to sow 18,000 seeds per acre this year, up from 15,000 last year, but won't increase the 730 acres he had in corn last year.

Esmond, Ill., Feb. 23—Factory sales of tractors, corn pickers, plows and other types of farm equipment climbed about 15% last year to over $1.8 billion, just short of the $1.9 billion record during the Korean War boom. But over two-thirds of the nearly two score farm machinery dealers, checked by the Wall Street Journal, say sales thus far in 1960 are below the year before. The declines average around 50% but range as high as 80%. Five of seven major manufacturers polled said their own dealers' sales now are running below a year ago.

The four foregoing articles paint a picture of our rapidly deteriorating Price System and the futile attempts to solve its problems under a political and financial control. The puerile farm programs of the last few political administrations have only aggravated the situation. Cut the acreage and the farmer uses more fertilizers. Cut the support price and he plants more acreage. The smaller farmer can't always do these things so he sells out and goes to the city to compete for already scarce jobs. The larger operators put in more and better machinery and produces more with less human labor, sending still more to the

cities. As the costs in the U. S. rise, foreign products are being imported in ever increasing volume and our exports being high in price are dwindling rapidly. The last few years of this Price System, trying to hold on to obsolete methods until a total stalemate occurs, are not going to be pleasant.

The Price System Encourages This

Bridgeport, Conn., Jan. 10—Crooked executives, supervisors and workers will continue to steal American business blind in 1960, a New York management engineers says.

Norman Jaspan, of Norman Jaspan Associates, told the Controllers Institute of America that "management will continue to lose its battle against internal dishonesty" this year.

Jaspan said 250 firms will go to the wall because of thefts by officers or workers—50 more than in 1959. Employees will steal more than $4,000,000 a day, most of it by executives and supervisors rather than ordinary workers. The total, exceeding $1,000,000,000, will be over twice as much as professional burglars and robbers manage to steal from the public in the course of a year.

Most of the losses will be so carefully hidden in the books of the companies involved they will never be discovered. In consequence, thousands of companies will pay taxes on profits they never earned or property that was stolen.

On top of the thefts, the kickback racket will take a further toll of $5,000,000,000 from business in 1960 in spite of all the recent payola notoriety, Jaspan predicted.

He said stealing and payola cost business so much that if they could be eliminated the general price level of goods could be cut by 15%.

Mismanagement is responsible mainly, Jaspan said, and dishonesty is greatest among executives and supervisors. His company investigated $60,000,000 in theft losses last year and found the bosses stole 62 per cent of this.

Washington, Jan. 29 (UPI)—FBI Director J. Edgar Hoover charged today that the "barons of the underworld" loot the nation to the tune of an 'astounding" $22,000,000,000 a year.

Hoover said organized crime was made up of a "lawless legion" of extortionists, strong arm hoodlums and special racketeers "whose greed reaches into every community of our land."

Hoover wrote in the FBI's law enforcement bulletin, "nothing could be more harmful to the tradition of American law enforcement" than federal domination of the investigation and prosecution of racketeers.

He charged that organized crime exists "by exploiting weaknesses, throughout our society whether they be city ordinances, county codes, state statutes or federal laws."

Hoover said "the lawless legion infiltrates through every loophole, its booty flowing into underworld coffers whether it be nickels and dimes from a juke box in a bar in the smallest town or from a multi-million dollar stranglehold on large metropolitan centers obtained through the domination of a few dishonest labor officials."

He said the criminals' plunderings "are an endless shame to the countless honest, law-abiding labor leaders and business men across the nation."

(The above two articles explode the old theory "that crime does not pay." This is the result of the conditioning to which we are all subject throughout our lives, of knowing that the fast buck spends just as well as the one honestly earned.)

Is the Strike a Solution?

Butte, Mont., Feb. 10—Negotiations with the International Union of Mine, Mill and Smelter Workers were resumed here this week, heightening prospects for a settlement. The union already has settled similar strikes against other units of Anaconda and other non-ferrous metals producers. But no matter when things are settled here, Butte will never be the same.

After the strike ends, fewer men are likely to work Anaconda's mines here. In common with other nonferrous metal producers, Anaconda in recent years has rapidly automated its operations. The higher labor costs expected from eventual settlement of the strike are sure to speed this trend.

. . . All told, Anaconda figures its post-strike work force at its mines and other facilities here may be only about 3,000, compared with 4,000 before the strike. . . .

Fair Warning

Los Angeles Times, May 1. Pittsburgh—United Steel Workers president, David J. McDonald, warned the union rank-and-file today it faces

the prospect of being on strike seven out of every ten days unless new ways can be developed to negotiate contracts.

McDonald said the steel industry—on the average "can make a profit while operating at 30% of capacity."

"Why does the union strike? To put economic pressure on a company, of course," McDonald said.

"And I tell you, it's getting to be a more serious problem every year to put economic pressure on a company."

"We could strike them for 70% of a year before a particular company could feel economic pressure." . . .

. . . I. W. Abel, WSW secretary-treasurer, read the cost of the 116-day steel strike. He said it cost the USW $20 million, but pointed out there was still $26 million in the treasury.

(All members of organized labor should recognize this as a portent of Social Change. The trends are so obvious that all may 'read who run.' Technology is no respecter of labor, management or stockholders.)

The Independent American?

It was with mixed emotions that different parts of Canada witnessed the astonishing effect of an ice storm recently upon the most populous regions of Ontario, particularly some of the finest suburbs of Toronto. Here were tens of thousands of people, beneficiaries of all the latest amenities of mid-twentieth century civilization, completely flummoxed when sleet tore down the electric power lines. The lights went out. The oil furnace clunked off. The refrigerator quit cold and started to turn warm. Radio and TV blacked out. Every mortal thing went dead. To all intents and purposes, these thousands of homes, many of them ranch type bungalows of the most stylish description were converted in an instant, and for two or three days to a week's duration, into something less than a deserted shanty in the backwoods. For in a deserted shanty you will most likely find the axe.—Saskatoon Star Phoenix, 1, 18, 60.

An Open Letter to Mr. William Winter

It seems that the only time people bother to write is when they have a complaint. I am no exception.

In several of your recent broadcasts you have stated that scientists support the cold war as much as the military men. That you have received this impression is not surprising. In the past few years what has happened to any scientist who dared to take a position in opposition to the cold war? Remember only one, Dr. Robert Oppenheimer. Who ordered the expenditure of billions to develop a fission bomb, hydrogen bomb, and the I.C.B.B.?

Take a look at the other side of the picture. How much is spent on nuclear particle accelerator, theoretical chemistry, or preventive medicine? The government spends as little as possible on anything which does not have direct military application, or does not help to keep our great system of free enterprise from sinking like a deflated life raft. Anything which might possibly be construed as socially beneficial is considered creeping socialism, or even worse, communistic. If some such program should by some unfortunate mistake happen to sneak through it is treasonably so prostituted that it would have been better not to do it in the first place. Consider the ST. LAWRENCE SEAWAY. Who is it that sets this national direction of total stupidity? Is it the scientists? Or does it seem a bit more probable that politicians and military men, who have not understanding or appreciation of science, are the real culprits?

Look at what science has done in the fields where it has been applied. One hundred and fifty years ago people did not live, they merely existed, for the most part. Approximately ninety percent of the world's population lived and worked on the farms. Look at the change science has brought in that relatively short period of time. In North America today approximately ninety percent of the people live in the cities or towns. We work eight instead of twelve or sixteen hours a day, and enjoy the highest standard of living the world has ever seen.

Only one major field of human endeavor remains untouched by science: the field of social control. In America today we go to the polls to vote for people we don't know to solve problems they don't understand, or, for that matter, even recognize.

Considering the gains made in other fields by the application of the scientific method, imagine what the results would be if it were applied to the field of social control. What this country needs is more scientists and technologists in positions of responsibility, certainly not less!

Technocracy Inc. is the only organization in the world, of which I know, that has applied science to analyze the operations of the social mechanism. Technocracy is the next most probable state of society. Some of the specifications of Technocracy include: a wholly integrated continent; a continental hydrology which would provide practically all the power we need, and the cheapest form of transportation known; an electrical network tying the entire continent together which would consist of subterranean transmission lines, capable of carrying electricity three thousand miles with only a ten percent line loss at a million volts D.C.; a continental rapid transit system of trains that would travel at speeds of 150 miles per hour; agro-technological units of four hundred thousand acres each; a distribution system that would deliver an abundance of goods and services to the people of North America without cost. These are some of the specifications, not all of them! Such functional organization will be necessary to our continental survival; they are not merely nice or desirable.

Even if North Americans wanted these things, such construction could hardly be initiated under our price system; it would cost too much. It would be impossible for our politicians and financial "brains" to even consider the possibility of plans of this scope under the blundership they demonstrate.

North Americans have within their grasp that which the entire human race has been working for the past nine thousand years; material abundance without toil. But Americans don't seem to want it. They apparently prefer forty thousand dollar mortgages in the suburbs, chrome plated mobile junk heaps that pass for cars, and all of the stupid contradictions that are part of our civilization today. They don't seem the slightest bit interested in having the greatest civilization the world has ever seen as long as there is the possibility of making the fast buck.

I am sending you some Technocracy literature that I am sure you will find interesting.

Respectfully yours,

Ron Miller

A REPLY

To Gorth Bentley's poem, "Automation"

Though you may have no answers, there are those
Who long ago discerned the course you view
With startled eye: who even then disclosed
The direful trend which threatened to ensue.
They saw that interferences and strife
Were damming the abundant stream of goods
Which, unimpeded, could sustain full life.
They, fortunately, saw and understood.

"Grind out new products for the waiting marts"—
As though the need were but to buy and sell!
Perverted aims concerned in greater part
With private gain and fortune—mark it well!—
Can serve no more as basis, creed, and theme
To spark man's chief objective. To survive
Man must ignore such petty aims and dreams;
Must work with Science to remain alive.

"There chaos lies!" Enough to startle one to pause.
To think. Why question only other men
When laws in which you've acquiesced, the laws
Of claw and fang, no longer serve as then?
But ponder well: which experts shall you heed—
The ones who plan for dividends, for gain?
You, too, must answer, for there's urgent need
For men to understand, to think, to train.

You credit Automation with the power
To bring about Utopia in this land.
You're right! 'Tis Science come in flower.
Man bred it, but they do not comprehend
That only under freedom from constraint
By rules of price and profit can it grow.
Join Brains with Science to remove the taint
Of Commerce. You'll not question then: you'll know.

—Lucy L. Barnes, 12247-3

Washington, Feb. 3—Since the late 1800's, the U. S. length standard has been a bar of platinum-iridium metal stored in a vault here. The official U. S. meter is defined as the distance between two finely engraved lines on this bar. The inch, yard and all other measurements in the nation are based on this single bar of metal.

This fall, however, the bureau plans to replace this meter bar. The national length standard will become the length of a wave of light emitted by an atom of krypton 86, one of the inert gases. The meter would then become equal to 1,650,763 wave lengths of the orange light emitted by krypton 86. This works out to about 40,000 wave lengths per inch.

The Dilemma of the Thinking Man

—Jeanette DeLeon, M.A.L.

Following two decades of monumental indifference to thinking in America a light seems to be breaking. After being sold, ad infinitum, on the stupidity of those who did cerebrate, sold on the idea that professors are bumbling at best and scientists sinister, and that intellectuals were "strictly for the birds", it is an historic event — the bursting forth of this new character THE MAN WHO THINKS FOR HIMSELF! His thinking of course, is confined to a choice of hobby and cigarette, but there is hope! For one thing, unlike the cockeyed little professor who used to race across the TV screen yelling "save me a blue one," this man at least looks human as he does his thinking. And as long as that thinking is limited to unimportant things he may be allowed to stick around. But woe betide him if he gets to contemplating the world he is living in! He will find along with less advertised thinkers that he is indeed in a dilemma!

Since the Russians frightened us into a reassessment of our whole way of life, we have been frantically shoring up some of our military deficiencies and trying to measure the effect of more than two decades of sleeping at the educational switch. Our findings have us "all shook up". The damage is irreparable. The loss is incomputable. Belted out of our assurance that only America has God's gift of brains and "know how" we are, in piecemeal ways, after the horse has escaped, trying to mend our educational fences. This has led to a greater value being placed on brains, and on the education of them. But under a Price System the odds are that Business will continue to magnetize our best potential educators with better pay, and that tax dollars will continue to be diverted, through lush profits on buildings and appurtenances, from the purpose they were designated for. One of the end results of this will be a continued lack of educational facilities for an increasing number of our youth. For it is axiomatic that price demands profits and profits in return demand scarcity.

After a fast glance down the dismal road along which our laxness has been leading us, we are getting the hint that to survive, we will have to 'smarten up' and make full use of every device and resource available to us. So, stop-gap measures can be expected. But in a Price System no matter how aroused are our good intentions, the same old business and political controls wind up in the saddle, and where their interests conflict with the interests of youth; youth comes off second best. In direct ratio Ivan, whose schools do not have to show a profit will be the gainer—as he goes on learning like mad.

It has been said that though most people think they think only a few actually do think. From the mess we are in, this is easy to believe. In America a large majority of our people exist from birth to death in the murky shallows of mental mediocrity. Immersed in the minutiae of their daily lives, few bother to know facts outside their little orbit even though such facts might be more important to their interests than their next meal. Difficult as it is becoming to avoid knowing facts, this group manages. By ignoring them or refusing to identify themselves with them, they maintain themselves in a nice comfortable mental vacuum.

Socially, America is advancing into a transitional state and moving rapidly toward crisis. One look reveals the symptoms of this fact. The rise in the crime and insanity rates, the lapse of morals over the whole country and the slaughter on the highways (already clogged with cars as the ballyhoo goes on to sell more) are but three of them. To direct this rapid movement away from the disaster made possible by the present controls, will require intelligence of the highest order. The danger makes mandatory that as many Americans as possible know the facts in order to do cold objective thinking which will lead to correct conclusions. So in our own intelligent self-interest let us examine the stock of mentality available.

Let us start with Business. This mentality, in the area of its own self-interest, is extremely acute.

It permeates all levels of society from top rung to bottom. Even the medical and educational fields have become businesses motivated more by the urge for profits than by a desire to be socially useful. And if these two groups, once selfless and dedicated to human welfare, are now dominated by monetary considerations, how can one expect more of the frankly business mentality which neither takes a hippocratic oath nor works with the delicate fabric of children's minds? It becomes understandable in this light how the businessman dares when confronted with any threat to his profits, to seek to destroy that threat, be it an enemy overseas who is outguessing him or burdensome surpluses at home. It is understandable, as the habits of any predator are understandable; but that does not make them socially tolerable.

The business mentality in its upper echelons, to cover its defaults, sets the psychological pace for the whole field by declaiming that "what is good for business is good for the country"! This credo is happily re-echoed from top to bottom of the ladder even by those disinherted on 'Rocking Chair Pay'. For, wistful eyes on the grandeur above them, they live like eager ants under the table, in the hope that a few crumbs will fall down to them. For aren't they 'part of the team' and isn't this 'The American Way'?

The business mentality is identifiable by its conservatism (not to be confused with conservation, about which it knows or cares nothing, as it ruthlessly plunders natural resources as if by divine right). At the top it uses its loot to resist social change and to hinder the loss of any of its power. This it accomplishes by keeping the political ways greased and by constantly evidencing its self-esteemed merits from its own private sounding-board, ADVERTISING. It also maintains watchdog lobbies in legislatures which vigilantly guard loopholes lest too many 'goodies' leak through to the common people. In all of this it is backed by its loyal adherents and apologists who cherish its rights to plunder, who as 'members of the team' work for it, but its products and slavishly ape as far as possible, their 'gods' at the top. When confronted, as they have been often of late, with the falseness and venality of those 'gods', these adherents fly to their defense even when their skullduggery is a scandal. Many even find satisfaction in the moral lapses of their superiors. It gives savor to their own dreams of being 'in on the take' and sanctions their doing in lesser ways 'what comes naturally'. This practice has laid down a mephitic fog of economic immorality over the whole nation which poisons the very air we breathe.

But the business mentality has problems. And fears. Not the least of which is that the reins may somehow slip or be wrenched from its own hands and placed into the hands of the people. It is harried that its revenues may be either stopped or drastically reduced by increased taxation or by that most sinister of birds, the Dove of Peace. But the greatest cause for alarm to this worried mind is the ceaseless and merciless piling up of unsaleable goods. For the erstwhile profitable scarcity, which he has enjoyed for so long, has compounded itself into an 'indecent' abundance which is not only embarrassing but downright threatening. But his mentality is at a loss as to how to stop it. Like the sorcerer's apprentice, he has no magic words with which to halt the witchery of his own machines. As fewer and fewer men are used the machine will pile up goods faster and faster. Yet, paradoxically, business acumen being what it is, more and more bug-controls and more efficient machines pour off the assembly lines only to add to the piling up of surpluses. Is it any wonder that the average business mind resorts to tranquilizers to sleep? The thought of a good old hot war fails to unnerve this mentality as does the thought of peace (with a falling away of lush war production) and mounting inventories of civilian goods.

Technocracy wishes to point out that the American business man is the last surviving entrepeneur of the defunct price system; that his days are numbered and growing short. In the design for a new and functional social control operated for the benefit of all and with profit for none, the business man will have no role except to help consume the resulting abundance. In the coming transition it is to be expected that this mentality will be too busy swimming against the current of change, in his effort to preserve the status quo, to exert anything but interference.

Now let us look at the Political Mentality. The prime interest of this mentality is not the serving of the electorate which put him into office but the perpetuation of itself in that office. If in white-haired zeal to really 'do good' a man goes into active politics it does not take him long to find that his bread is buttered by running with the dogs in the game of hare and hounds. Preferring offices with a high yield of spoils, the politician allows many socially necessary but less lucrative posts

to go begging as he hotly pursues the one which really 'pays off'.

Once elected by so-called popular vote, this mentality teams up with business whose money helped put him 'in'. Thus business, in one easy leap, and without the formality of being elected to any office, is in a position eminently favorable to itself. Refusing to admit the fact of a diseased social order and unable to do more than treat symptoms, the politician neverthless manages to mask cold calculated self-interest with enough emotional appeal and rationalization of issues important to the people, to convey the impression of earning his salt. However, an instance of malingering which we have recently witnessed in the legislators' filibuster on the racial issue, gives evidence of time and money wasted in holding back progress—as well as a gross misinterpretation of the meaning of citizenship. For on the North American Continent there is but one national—American. So by ignoring large issues and correcting only small segments of the whole sickness, the political mentality brings easements here and there on a 'grease the squeaky wheel' routine and always at the expense of some other individual or group. To really understand the political mentality allow me a recent quote from Richard Nixon:

"The American system (of education) is the best in the world," he said, "but inadequate classrooms, underpaid teachers and flabby standards are weaknesses we must constantly strive to eliminate". At a time when the clearest thinking is called for it would be hard to find a more classic example of the old political gobbledegook.

Technocracy wishes to point out that the North American Continent in its physical aspects is operating under an integrated technological set-up in which towns, farms and factories are closely bound together by the common denominator of the kilowatt. On all levels our people strive for the same goal, an equable share of the increasing abundance which is flowing from our rapidly multiplying automatic machines. In the operation of this technological complex, the political mentality is as incapable of giving direction as the dinosaur was in his age—and is as doomed to extinction.

In the coming transition the politician, like the businessman will be helpless to exert any effort save in behalf of the status quo. He will be reduced to being merely a consumer of abundance. So let us examine yet another segment of our social mind—a mentality devoted to the art of thinking—a group which should be not only aware of the world's ills but of the cure, the Intelligentsia the Liberal mentality.

We find this mentality split by minor differences into many factions, each with its own emphasis—and its own objective. It is of exceeding warmth, goodwill, argumentativeness and preoccupation with detail. Committed to what it calls "the humanities," it lends its support to 'humanitarian' projects which are dramatized around individuals or groups. Its objectives change from decade to decade with changing symptom patterns, for it seeks to ameliorate only symptoms. It recoils from the idea of doing away with money altogether—it only wants it 'doctored'. Some of the symptoms it has concentrated on have been child labor, working conditions, the racial problem, and in the depression of the thirties it broke out in an eczema of panaceas for the aged. Today it focuses on the segregation problem, individual lynchings and other wrongs, and mild socialistic flaps.

The liberal's approach to the social problem is through the emotions. It 'feels sure that if we just believe' and 'have faith' that 'somehow through the democratic process' we will see 'justice done'. There is no clarity as to what the democratic process is—but to the factual-minded observer it looks like a jumble of religion, philosophy, money values, along with others which 'must be preserved at all costs' overlaid with a thick washing of modified patriotism. In any case the liberal sees the problem as forever fragmentized—never as one whole problem.

The liberal is happy to work out little dramas of 'the brotherhood of man' through charitable gifts and 'good works'. But he fails to see that while charity in an economy of scarcity is a benign and necessary function, in today's America it is 'an obscenity to God and man'. None should suffer the humiliation of handouts while millions of dollars worth of goods are destroyed each year to preserve profits.

Ever peace-minded and frightened now by the threat of nuclear war, the liberal hopefully petitions his elected representatives to legislate war out of existence. By diligently sidestepping the cold facts he fails to understand that in our Business-Political dominated structure as long as war is profitable to those who control those legislators (his own included), war, hot or cold, will not be done away with—nor will the provocative gestures which could at any time precipitate a holocaust. He does not realize that even adequate defense is interfered with by the need for profits. An inter-

esting sidelight on this is the recent proposal of Governor Rockefeller that we go in for a national program of building bomb shelters. This would provide a rich grab-bag for business, but in an enlightened age it is like proposing that we all go back to prehistoric times and locate a good cave for each family. The most unpalatable fact of all for the concerned American to swallow is that those who stand to profit by conflict are at all times diligently exerting themselves to that end.

The liberal harks back to dead eras and dead men for solution of a problem so new and so unique as never to have confronted any society before. The deliberative, circuitous liberal mind, still back with Plato, Socrates and Aristotle, conveniently forgets the two hundred years lost to science from just this sort of mental juggling. Galileo, the forerunner of scientists, languished in jail for the heresy of shedding the fresh air of fact into the fetidity of superstition and dogma. By his unchanged attitude the liberal proves that he has not come very far since Galileo's day and that even in this modern age when everything we do and have depends upon the works of science, the very name of science and many of the facts it presents in connection with social change, are anathema. Hence the liberal wastes his strength by turning time backward to men who knew neither kilowatt, computer or facsimile communications, in the vain hope that out of the sacred and receding past will come the answer.

Technocracy states that if the liberal wishes to help the progression of America to its highest destiny he will perforce right about face and identify himself with his own time in history in stepped up tempo. He must realize that the 'democratic process' has become just a meaningless expression totally inadequate to the complex job lying before us. And most important of all he will have to understand that if he is to make his liberalism stick, he will have to help replace the whole wretched fabric of the outworn Price System with a social order which will work.

The hour is late but if the liberal will identify himself with the job to be done he can use his full potential in behalf of his country in this crisis. If he chooses he can be a vital functioning factor in the most magnificent achievement in the history of man—the creating of a NEW AGE OF ABUNDANT LIVING—THE NEW AMERICA! But only when science and engineering are released from the thralldom of business and politics to work out our massive scientific problems will come the 'utopia' for which liberals have waited for 2,000 years.

But if the liberal continues to 'argufy', procrastinate, divide his forces and to dawdle over the dead past, trotting round and round in the squirrel cage of undefined terms and unverified 'truths', he will join the business man and the politician in the sidelines and go down in history as the 'little man who was too tired to do anything but talk'.

The Workers Mentality provides us a prime example of the 'let George do it' mentality en masse. Originally this group organized to gain the largest possible measure of security and safety on their jobs. For years it benefitted from this organization. But like the business colossi for which they work, the unions have grown into unwieldy monsters which have outlived their usefulness. Grown huge and inefficient they frequently operate against the workers interests and are helpless to stem the tide of machines which are replacing more and more of them in plant, in mine and on the farm. Man-hours of labor, the one commodity workers have to offer, are becoming a drug on the market. This is in response to a basic trend and is irreversible. Frightened for their own jobs, as the union memberships diminish, those leaders employ masterful salesmanship to keep the workers happy. But with unemployment creeping inexorably into every field of endeavor union heads and workers alike know their own brand of sleeplessness.

The tragedy of the workers is that at a time when they most need to use their minds in their own intelligent self-interest, they are crippled from years of allowing others to think for them. Increasing numbers of workers are finding themselves beached by an industry which does not need them — without a champion. They are further hampered in their adjustments by their old habit of swallowing the old business-political 'line' that 'the worker will always be the indispensable man' and that 'what is good for business is good for labor'.

Technocracy reminds the American worker that in America's stupendous economic growth the worker has been the backbone of the economy both as a producer and as a consumer. But it also points out that the worker must now realize that over 100 years ago with the advent of the first labor-saving machines, his own importance in relation to the amount of goods he was able to produce began to diminish. This trend has continued in ever-quickening tempo and the day is not far

off when the 'overalls' will no longer on the man BUT ON THE MACHINE! The workers would do well to cease lamenting at this turn of affairs—and rejoice to be set free to enjoy the abundance the machine will turn out.

Technocracy is looking to the workers of America to take a dynamic part in the coming transition. For, although they have subjugated themselves for years to Business and their own leaders, Technocracy predicts that Labor will rapidly learn to think as its belt-buckle approaches the backbone, and Technocracy urges all workers to investigate the facts and prepare for intelligent action for survival by helping install Technocracy's design for a functional control on the North American Continent.

We have examined four mentalities which dominate the thinking of the American Price System. We have tried to assess their identification with the problem confronting our society and to determine how each may be expected to react to the rigors of transition. Now let us examine the fifth mentality and its approach to the problem.

The Scientific Mentality. Although this mentality has been quietly at work through the decades turning out the tools of industry and preparing the ground for social change it has been held in more or less obscurity by the Business-Political combine which has controlled and profited from it. As to authority over, direction given, or use made of its creations, the twin creators, science and engineering, have had little to say. Had they worn chains they could not have been more enslaved. They were men. They had to live. Hence their brain children were sold for a mess of pottage, and they little concerned themselves with the effect of their machines on society. For decades this worked out well enough and only after they horrified themselves into articulation by creating the atomic bomb did some of their group raise their voices in behalf of threatened humanity. For this they were promptly branded subversive by their masters and many felt the sanctions of lost jobs and prestige, applied by those whom they had served so long and so well. For several years the role of the scientist has been subverted by the businessman who understandably did not want his genii to grow too big for his bottle. To the end that his words would not carry too much weight in a world which was becoming science-conscious, this back-room worker was put through more than a decade of semi-degradation by inference and subtle suggestion. On TV and in print who hasn't seen him pictured as an unsavory character? The net result of this myopic attitude has been a diminished flow of youth into scientific fields with the result that national development in all fields has been retarded.

To some extent Sputnik showed us the error of our ways. As we stated in the beginning of this article, the curtain seems to be rising for the emergence of the thinking man. If so, he must inevitably come to the recognition of the fact that since our physical environment upon which we depend for our lives has been created by science, it is inherent in what he has already built that he bring the solution to the problem which that environment has created.

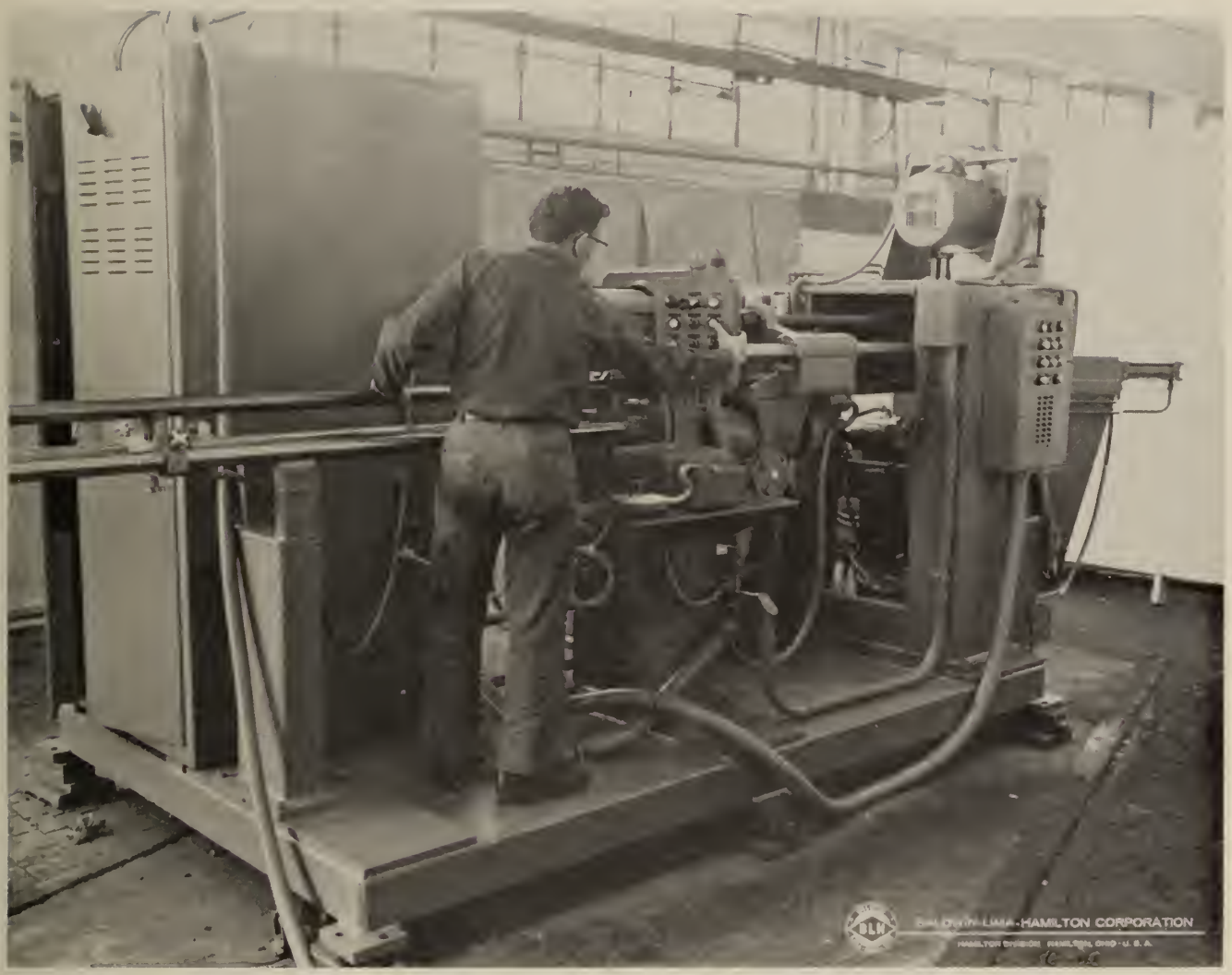
Science approaches problems with the overall design in mind. Indeed, had science and engineering remained unshackled during the past four decades it would have long ago integrated a social order of function out of our potential abundance of production, as they had already built an orderly productive capacity out of our abundance of natural resources. A social order in which poverty, ignorance, crime, waste and war would have no place.

However the controls of the Price System prevailed and since the Price System has no blueprint for its dog-eat-dog confusion we have suffered wars, crime, increased tensions and the constant threat of extinction by The Atom. In a scientific age this is madness; but the time is not far off when sanity must prevail if we are to be saved. At present we are hurtling down the road to oblivion in a three-wheeled car driven by a cross-eyed chimpanzee. The scientist will have to take over the driver's seat. After all WHO ELSE? He built the new social order. And only he can operate it in accordance with its design.

Technocracy points out that every 'marvel of science' from the reciprocating steam engine to our giant computers has been produced IN SPITE OF and not because of piratical business methods created by the quiet and tireless work of dedicated scientists and engineers. At no time have we been permitted to see what achievements could come from the brains and hands of these men if freed from the bonds of profit. Technocracy salutes the achievements of our scientists and engineers, the men who REALLY THINK FOR THEMSELVES, salutes their growing awareness of their obligation to humanity, and their potentials in helping to usher in the new order of things.

THE TECHNATE OF NORTH AMERICA!

Bend-O-Matic



The picture on the cover as well as the one above is that of the Nu-Era Bend-O-Matic which will bend automatically from a punched tape any one of the more than 700 automobile tail-pipes now in current use. It will produce one or a thousand after being started. Obviously it will not require great floor space, will require less man-power and reduce inventory as well as reduce warehouse space. There are many other idustries which can use this equipment, such as the furniture, construction, refrigeration and plumbing.

Sun Powered Auto

El Segundo, Calif., Mar. 10—The International Rectifier Co. today unveiled what they believe is the first sun powered life-sized automobile.

More than 10,000 silicon solar cells are mounted on the roof of the automobile in a detachable 26 square foot panel which company engineers believe is the largest single photovoltaic panel for conversion of solar energy built in the world to date. . . . .

The car is a 1912 Baker electric which has been adapted to utilize solar energy. The sunlight energizes electrons in the cells, which are wired together in a circuit and puts them to work charging the car's 72-volt battery system. The cells used are similar in function to cells used to open automatic doors and in camera light meters, except that they are made of silicon instead of selenium. Since silicon cells are made from rocks and ordinary beach sand, the solar car utilizes some of the earth's most abundant compounds.

What Will the Sixties Bring?

For the past three decades there has been an attempt by the financial and political leadership of this nation to solve our technological and social problems through a process of drifting and muddling. It has been thirty years of errors, failures, compromise, expediency, and 'do-nothing'. This policy of maintaining the *status quo* has been deliberately pursued at a time when this nation could have developed and reconstructed its entire social complex into a unprecedented state of everlasting, economic tranquility.

The past decade has been no more of an exception to the rule than the two previous decades. The 'fabulous fifties', or whatever you care to call this period, began and came to an end without a wave of glory or without any noticeable success. At the beginning of the fifties it was necessary to involve in the nation in a *chosen* war in Korea in order to prop up a sagging economy. The fifties brought not only one, but at least three 'mild recessions'. And, according to the apologists of private enterprise, the economy recovered stronger than ever. Of course, it was never explained to the public why a strong and healthy economy such as free enterprise had to undergo three 'mild' operations in a matter of one decade.

The fifties have been hailed by the exponents of free enterprise as the greatest decade of prosperity in the history of the United States. Their argument goes something like this. Did not the gross national product increase from $285 billion to $485 billion during the past decade? And did not the total personal income increase from $227 billion in 1950 to $384 billion at the beginning of 1960? While their argument and the figures they quote may appear impressive, these figures are far from being impressive under an objective analysis. In the first place, the increase in the total personal income had to be divided among more people as the population increased from 150 to 175 million during the same period. Secondly, what segment of the population received the greatest amount of the increase in national income? Furthermore, the cost of living has steadily increased, thus it takes more and more dollars to purchase goods and services. Then there has been an ever-increasing amount in the taxes paid per capita at all governmental levels which has reduced the purchasing power of all consumers. Most important, you will notice from the above figures that the disparity between national gross product and total personal income increased from $58 billion in 1950 to over $100 billion at the start of 1960.

Rather than any concrete examples of real prosperity, the fifties were marked with a larger increase in public and private debt than any other previous decade. During this decade the federal government increased its spending from $40 billion to about $80 billion for the current fiscal year. While the American people fell for the 'soft soap' that 'if we are elected we will balance the budget', the budget is far from being balanced and the national debt has continued to rise. As one of the best examples to show what the 'prosperity' of the past ten years has been based upon, we can point out that the mortgages of home owners alone have increased from about $48 billion in 1950 to an all time high of hover $125 billion. Various forms of credit owed by American consumers has more than doubled during the past ten years. Other types of debt have increased correspondingly. It becomes obvious that any 'prosperity' this nation has enjoyed during the fifties has been the result of debt-creation rather than any long-term progress of a tangible nature. The fifties were anything except prosperous times.

Just what will the sixties bring that will be any different than the past decade, or the past thirty years. The general trend will continue, but more important, the magnitude of events will accelerate at a much higher rate until it will become impossible to cope with the technological and social problems under the present mode of operation.

There are already indications that the 'sensational or supersonic sixties' have run into trouble before getting started. Instead of the six months predicted by the experts, steel production reached the point where it became necessary to reduce the production of steel in the first two months of the year. Despite the collusion of management-labor leaders to perpetrate a steel strike upon the economy for the purpose of reducing steel as well as other inventories, there was a marked upward trend in all inventories as early as February of this year. It has been reported that the automobile industry had the largest inventory

of new cars in its history at as early a date as March. The starts in new housing have dipped, which does not point to any building boom. And there have been numerous lay-offs in the airplane, steel, automotive, textile, mining, and building-trade industries throughout the country. All of these trends point toward a hopeless and dismal future for the sixties under a system of private enterprise.

During this decade the 'problem' of surpluses will be with us, but it will grow and accumulate at a much faster rate than during the fifties as the technological revolution of the farm continues unabated. In spite of all of the expediencies that have been used in the past to destroy and sabotage the distribution of our technological abundance, this nation now enters the present decade with the greater amount of farm surpluses than at any time during its history. The federal government has spent billions of dollars to withhold these surpluses and to curtail farm production. Although the acreage employed to grow crops has gone down to the lowest level since 1939, and about 30 million acres less this year than in 1949, the nation is producing more crops, livestock and livestock products than ever before. The plague of abundance will engulf the nation no matter what is done to maintain scarcity.

It makes no difference what the Democratic and Republican administrations have done or will continue to do to prevent the distribution of our abundance, the impact of technology and the application of scientific techniques to the soil of the nation has created a condition that dictates an entirely new solution divorced of political and financial expediency. We can safely predict that the sixties will bring an era in which the American economy of private enterprise will bury itself, not because of what the Soviet Union does or does not do, but from the capacity of this nation's technology to produce an avalanche of goods which the Price System cannot destroy fast enough nor distribute at a price.

During the sixties there will be a greater number of foreclosures, bankruptcies, and liquidations of business establishments than during any decade of the past thirty years. And the trend of mergers will reach its final stage with a few big businesses in control of all rackets. These mergers will continue at a rapid rate, not only for the purpose of preventing competition, but in order to survive the depressed economic conditions of the next ten years. 'Infallible' as private enterprise may be, there will be as many mistakes in business calculations as there have been in the past. Of course not many businesses will be able to write off a quarter of a billion dollar mistake as a bad judgment and continue in business as did the Ford Company in the now defunct Edsel automobile. The sixties could well be the last ditch stand of private enterprise in this country.

While there might be some consolation for private enterprise, it cannot expect many more give-aways from the government because there is hardly anything left for the government to give Big Business. And a change in administrations will not help the situation, because it would take the Democrats at least thirty years to restore to the public what the Republican administration has given to Big Business during the past eight years. It is too late in the game to start this kind of tit for tat when our technological progress demands an immediate transition into a new social order that is compatible with the present scientific advancement. And as has been the case for the past thirty years, business enterprise will receive most of the government expenditures that will be appropriated by 'our' representatives in government.

The gross national product probably will go over the $500 billion mark and reach a much higher figure. But as the value increases the disparity between the gross national product and the total national income will increase at a much faster rate than it did during the past decade. The capacity to consume will decline at the rate our technological capacity increases. Inventories will continue to pile up. And the inability of private enterprise to sell the plethora of goods our technology can produce will bring a complete stagnation in the operating mechanism. The sixties will be the decade that will force a social revolution upon the nation and the North American Continent.

Expenditures by the federal government will continue at the present or at a higher rate, but these expenditures will not be sufficient to bridge the gap between national production and national income. The largest percentage of the budget will be spent for 'defense' as a necessary transfusion to keep the Price System alive. While our past-master of foreign intrigue is gone, the cold war will continue as a national policy, obsolete as such policy is in a nuclear age. The leadership of the nation will proclaim that they are the champions of peace even if it is necessary to kill every person on earth to prove it. The nation will pump billions of dollars into armaments with the possibility that

this nation might produce a missile or rocket that will work satisfactorily. And if successful in the attempt, the government will spend additional billions of dollars to find out how it was possible for this nation under its present defense set up to produce a successful missile or rocket. Any expenditures which could help the American people or the welfare of the nation will get lost in the shuffle or be used for investigations or on Mission Whitewash.

Our political and financial leadership will continue to clamor for more support and aid to all 'backward' nations wherever they may be. If there are no 'backward' nations left, they will think up or create a few. Humanitarian gestures for all people of the world, except Americans, will run rampant as a smoke screen or an excuse to dump our surpluses and goods abroad for the sake of keeping high prices at home. Our bankrupt leadership will do everything they possibly can to divert the attention of the American people away from the internal issues confronting our high-energy civilization.

Regardless of the efforts to dump our abundance upon other nations, this policy has run out of gas and is now producing the opposite effect. It is ironic that in this nation's past policy of 'helping' underdeveloped nations that many of these nations have developed and surpassed the United States in many technological innovations. During the sixties our foreign trade in percentage of the national output will decline and in all probability the nation will continue as a deficit nation in its trade with other nations throughout the world. Competition, supposedly the essence of free enterprise, in foreign trade does not appear very favorable for the United States in the future.

There are other factors which are putting the United States in a deficit position. The fact that private enterprise has ruthlessly wasted our natural resources for the sake of profit has forced the United States to become dependent on other nations for critical energy and mineral resources. The impact of technology upon the social and cultural structures of the once backward nations of the world has resulted in more social change and progress among these nations. Their people have taken on new concepts, demanding a higher standard of living and self-determination. This means that those nations who controlled and ruled the seas are no longer masters of the maritime trade routes and the 'backward continents'.

While we must emphasize the point that the United States has never produced more than a small percentage of its national output for export, nevertheless, the external pressure of events will have its effect upon a system of private enterprise which is dependent upon an outside source as one of the means to dump its goods and maintain scarcity. Every avenue that is cut off for private enterprise will hurry to awaken the American people to the fact that our destiny lies in the distribution of our abundance to every North American, and not in destroying our American heritage at home or dumping it abroad.

As for taxation, the sixties will produce an accelerated increase in all taxes and introduce many new schemes for obtaining additional revenue. The tax bite will take more and more of the vanishing take-home pay of every American consumer. Every American can expect the same tax relief and reductions that he has received during the past decade—none. And as usual, the politicians will come up with a number of schemes to 'help' the poor taxpayer, but they will camouflage their ideas to increase taxes by making the American people think that such taxes are synonymous with their future well-being and present progress. Along with increased taxes, the American consumer can expect a further decline in his purchasing power as the dollar continues to depreciate in value or the cost of living continues to go up. Inflation, artificially created to maintain a scarcity economy, will add to the already high cost of living. During this decade our capacity to consume under a Price System will decline at a much faster rate than it has during the past decade.

The pressure of events during the next ten years will force upon the American people a new concept for living. Many Americans are beginning to realize that suburbia is not what it was cracked up to be. Not only is it too expensive to maintain, it has become burdensome and boring as a way of life. As the financial and economic pressures of suburban living become intolerable, millions of Americans will have to go in some other direction. They cannot turn to the farm nor can the cities as they are designed today absorb a mass influx of people. It will be interesting to observe in what direction these millions of Americans will go in search of a new messiah or utopia. It certainly will take more than tranquilizers to solve the problem when the pressure becomes intolerable. If suburbia does not accomplish anything else, it is conceivable that it will produce a condition that will bring social change opposite to that which it

was supposed to produce. The sixties could be the most explosive decade in the history of the country.

For the most part, the present decade will be the final stage in the application and development of our technological complex. It will be the era where most goods and services of the nation will be produced and distributed with a minmum of human participation. Productivity will reach a new high and man-hours as a standard for computing productivity will pass into oblivion as machines make machines, and machines produce goods and services without human toil. As the productivity increases and the man-hours of human participation declines the purchasing power of the American consumer will dwindle to the point where it will be impossible to operate a system based upon commodity valuation. What has happened on the farm and in industry will also spread to the service industries, but at a much faster rate. The sixties will see the end of the day when a person could take in another's 'washing' in order to exist or survive. Our technology is leading the way to a new, scientific order whether we like it or not. And the days of operating a high-energy mechanism through an archaic method which grew out of a primitive society has reached its end. The present decade and the future belongs to technology and science.

The sixties present the greatest opportunity in the history of the North American Continent. We can drift and muddle until we decline as a high-energy civilization, or we can move ahead to greater accomplishments by applying science to our social complex. Under private enterprise we can go down the road to war and total annihilation, or through Technocracy's scientific design we can concentrate all of our manpower, machines and materials for a permanent peace and abundance for every American. Through Technocracy's design we can put our efforts toward building a New America free from waste, human toil, cold wars, crime, debt tokens, taxes and the undesirable end results which are created and produced by the environment of a Price System. The decision for doing something about the present state of the nation and the North American Continent is now. The impact of technology upon our social structure will not permit us to sit idly by and do nothing. Unless we act now, it may be too late.

—Clyde Wilson

A Release From the Department of Agriculture

New methods of insect control or eradication by self-destruction have been suggested by a U. S. Department of Agriculture entomologist whose plan of releasing male screw worm flies, sexually sterilized by irradiation, eliminated this pest in the southeastern States and Caribbean Island of Curacao.

Dr. EdwardF. Kipling now proposes: (1) development of chemicals to produce sterility in male and female insects; (2) production and release of diseased insects to infect and kill their kind; and (3) production and release of insects having inferior or lethal genetic characteristics so as eventually to destroy an insect race.

These methods, he believes, might prove more effective than sterilization by irradiation, which has been found to reduce longevity and mating vigor in certain treated insects released for control purposes. In some instances, at least, the new methods might prove more effective than use of insecticides.

Dr. Kipling points out, however, that his proposed methods require basic entomological research on reproduction genetics, pathology, and other factors that would determine how to use the new methods and to what kind of insects they would apply.

Meanwhile, ARS entomologists, under Dr. Kipling's direction, are extending use of the male insect irradiation method to Oriental fruit flies and melon flies in a pilot test soon to be launched on Rota, one of the Marianas group of Pacific islands about 30 miles from Guam.

At the same time another new plan of insect eradication will be tried out on a large scale on the Bonins, Pacific islands 450 miles south of Japan. Under this plan male Oriental fruit flies will be lured to a powerful synthetically-produced attractant mixed with an insecticide.

The irradiation method was successful in eliminating screw worms from the island of Curacao in 1954 and in less than 2 years eradicated this livestock pest from Florida, Alabama, and Georgia. It has also proved successful in laboratory trials against the fruit and melon flies in Hawaii, where similar tests of the attractant bait method to annihilate male flies have also succeeded.

If the Pacific tests are successful, they will also encourage more research on both the irradi-

ation and the attractant methods for other insect pests of crops, animals, and man.

The right kind of chemical insect sterilization, Dr. Kipling said, might easily outdo some of the best known insecticides. For example, in a hypothetical situation involving a million insects that are multiplying five times in each generation, an insecticide that kills 90 percent each generation would leave 125,000 still alive after the third generation. However, a chemical that would produce 90 percent sterility without affecting sexual behavior would leave only 125 insects alive.

Development and release of insects carrying disease harmful only to their own kind would be of the greatest advantage against multiple-mating insects. Theoretically, a disease-carrying male could destroy the reproductive capacity of several females if the disease organism is transmitted each time he mates.

The irradiation method involving multiple-mating insects indicates that it would require about 900 sterile male insects to reduce the potential of a natural population of 100 insects per acre by 75 percent. Only 55 diseased male insects would achieve the same results if mating and infection of mates and their progeny were take place an average of three times.

The third new method suggested by Dr. Kipling would be to breed and release insects that possess inferior genetic characteristics that would be transmitted to their offspring. For example, a boll weevil strain that could not fly might be made to reproduce in the laboratory.

It is likely that this defect would not interfere with mating when the boll weevils were released in cotton fields. But widespread transfer of such a defect to the natural population would lead to the death of all progeny inheriting the defect, because they could not fly to hiberation areas in the fall or to cotton fields in the spring.

In reducing or eradicating large populations of any major insect pests by self-annihilation, Dr. Kipling believes, it may be necessary first to reduce the natural population to a relatively low level through the use of insecticides or cultural practices. Once a natural population is so reduced, it might be possible to eliminate the remaining insects by releasing a minimum number of insects having the capacity to destroy their own kind.

In areas subject to reinfestation, the continuous release of such insects in small numbers might prevent reestablishment.

(Editor's comment: Although the above report is largely speculative and the methods of control suggested still require large-scale verification, it does reveal the type of ingenuity that biological technologists bring to the solution of social problems — an entirely different approach than that of the politician, the economist, or even of the sociologist.)

Automation In Government Offices

Wall Street Journal, Mar. 4—The House Civil Service Committee which handles legislation affecting the 2,350,000 Federal employees is showing particular concern. And now a subcommittee headed by Michigan's Democratic Rep. Lesinski has called in representatives of the Treasury, Post Office Department and Veterans Administration to explain at public hearings what steps these agencies are taking to provide work for employees who lose their jobs to faster, more effiicent machines.

The government is beginning to have the same problem as the steel industry, the railroads and other industries which are replacing men with machines. . . .

Washington, Mar. 6—A new insecticide, which derives its killing power from a rodlike bacterium named bacillus thuringiensis, is expected to go on the market late this year after exhaustive field tests by the Agriculture Department and others. Bacillus thuringiensis, or B.T. for short, is said to be deadly to such crop scourges as the alfalfa caterpillar, the imported cabbage worm, the salt marsh (or wooly bear) caterpillar, the tobacco horn worm, and the European corn borer.

It does not hurt useful insects, such as honey bees, and is described as harmless to warm blooded animals, including man.

(Seeking the natural enemies of insects has proven an effective way of controlling plant pests. The use of massive doses of chemicals is becoming yearly more costly as well as showing signs of being inimical to the health of humans and animals.)

A Specific for Frustration

When our country was founded some 170 years ago, life for the average person was a relatively simple, well understood affair. The rules were simple and the old time virtues of hard work, thrift, 'early to bed early to rise' were applicable to almost everyone. With a whole continent to subdue, when the going got too tough, the solution was to move on to new fields. This is not to say that there were not hardships and dangers but that they were clear cut and understandable. Less than 100 years later the country was settled from coast to coast. Much has been written extolling the virtues of our 'free enterprise way' of life which has made it possible for a nation of some four million people to increase to 172 million in such a relatively short time. Looking back it seems that it might have been accomplished without the destruction of forests, minerals, watersheds, top soil, fish and wild life, the pollution of rivers, etc.

Most of us have lost sight of what has really made it possible for 172 million people to live where originally there were only from two to five million people north of Mexico: The growth and development of Technology.

With the expansion of population and the growth of technology, life has become completely altered, exceedingly complex and inter-related. Now the simple objectives and solutions are not valid and life for many is becoming a frustrating experience.

On the national scene we see our leaders fumbling, without any firm policy as to what the objectives of America should be, treating each problem as though it were isolated from all others, so that we go from one crisis to another. Where we should have been the leader for mankind, we have lost the initiative and the respect of many of the small nations around the globe and stand in danger of becoming a second class nation. Now we are being asked to elect even more mediocre leaders. Is it any wonder that the average citizen feels frustrated?

On the local scene the situation is even worse, if that is possible. Each state, county, city, school and water district is a law unto itself and the thing that hurts each person is that each of these divisions of local government has the authority to levy taxes against him. The pain might be alleviated if it were apparent that the money so taken was wisely used to solve problems affecting him personally. But when he sees it spent for ostentatious public buildings such as city halls, court houses, etc., which he will only use when he is harrassed by authority he is apt to feel he has been taken.

On the job, he is subject to many irritations. Few work at what they would choose; most work at what is available to them. Probably the citizen is forced to join a labor union whose reason for being is to protect him against the impositions of the employer. He soon finds that instead of one master he now has two. The terms of his servitude are set for him and his frustration is increased. In his immediate situation he finds that his pay check doesn't reach quite far enough to cover the mortgage on his home, payments on his car, radio, stove, refrigerator, television, doctor bills, food, clothes, education for the children or a possible vacation for himself and the family. Yet all the media of advertising urge him to spend, spend, spend. So he does just that, getting deeper in debt; and, now, he is harassed by bill collectors; and, in the final extremity, his elected officials arrive to take all his tangibles. He is now really frustrated. Does Mr. Average Man do anything about all this? Does he try to find the cause of his frustrations? No, he blames it on his elected officials, his boss, his wife or his bad luck. But will he take time to analyze his problem and see what really is the cause of all his frustrations?

Those who have taken the time and made the effort for such analysis have found that Technocracy has answers for all the problems of modern life. These answers are not to be found within the framework of our present politically and financially controlled Price System. Only in a scientifically designed functional control can your problems be solved. Isn't it about time that you, too, studied this design? No one can do it for you.

FREE HEALTH SERVICE — continued from page 2

tweezers and had this friend probe the sore finger and extract the spine. (It is quite possible that this friend would now be liable to prosecution for 'practicing medicine without a license.')

Many people afflicted with more serious emergencies are given the run-around by the 'health service' until they finally succumb, indignant accounts of which occasionally appear in local newspapers across the country but escape wide publicity. Sick old people are the most neglected of these victims, especially after their funds have become exhausted. 'Why do the 'old crocks' take so long to die?' is a lament often heard in charity welfare homes.

Technocracy proposes, as part of its Continental social program, that free medical service be provided all citizens of North America from birth to death, with emphasis on keeping people well and healthy rather than just giving them minimal treatment when they are sick or injured. Let those who are sincere in wanting 'subsidized' medical assistance to the old folks come out openly in support of Technocracy's program. Anything less than this is simply wishy-washy compromise with the racketeering of the status quo — and it is insincere, if not delibertaely mischievous, in purpose.

—Techno Critic

Automation in the News

Labor Herald, Jan. 22—The completely automated department store warehouse, where merchandise will be stored and shipped out to customers without the touch of human hands, is almost a reality, the National Retail Merchants Association was told.

Salt Lake Tribune, Feb. 28—Despite closure in recent years of certain cannery operations in Utah's agricultural areas, the state's canning and processing industry continues to flourish. Closure of canneries at Tremonton, Murray, Springville and Brigham City in recent years is more the result of technological changes in the industry rather than any evidence of a real down-turn in canning crop production and processing, according to a canning official.—Although the number of firms has held reasonably steady, a count of employees at the firms shows a sharp drop in recent years.

In the third quarter of 1950, 3,568 persons were employed in Utah canning and preserving industry. But in 1958, the number had dropped to 2,425 during the third quarter and in 1959, had declined to 2,382.

(We wonder if the 1186 people of Utah who have lost their jobs due to automation know what really hit them.)

Some Statistics on Railroad Employment

Top management group, $20,000 per year and over up from 518 persons to 953 equal to 84%.

Railroad labor down from 1,191,444 to 840,763 equal to 29.4%.

Payroll for top management group up from $16,455,700 to $31,549,000 equal to 91.7%.

Railroad Labor up from $4,419,433,300 to $3,927,167,000 equal to 11.5%.

These figures cover from 1949 to 1958 and are ICC figures.

—Trainmen News, Dec. 14, 1959

CHANGE OF ADDRESS

Please send your new address at least 30 days before the date of the issue with which it is to take effect. Enclose the old address with the new address. The same applies to expirations. Send correspondence to:

The TECHNOCRAT
8113 South Vermont Avenue
Los Angeles 44, California

The TECHNOCRAT STAFF

Leland Proctor.....Editor
Richard Burnett.....Assistant Editor
Kenneth Wolford.....Research Editor
Maysie Foster.....Circulation Manager
Marjorie T. Clouse.....Business Manager

TECHNOCRACY

North America's Only Social Dynamic

WHAT?

Technocracy is the only North American social movement with a North American program which has become widespread on this Continent. It has no affiliation with any other organization, group or association either in America or elsewhere. The basic unit of Technocracy is the chartered Section consisting of a minimum of 50 members and running up to several hundred. It is not a commercial organization or a political party; it has no financial subsidy or endowments and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsidence allowances. The annual dues are $9.00 which are paid by the member to his local Section. Members wear the chromium and vermillion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHEN?

Technocracy originated in the winter of 1918-19 when Howard Scott formed a group of scientists, engineers, and economists that became known in 1920 as the Technical Alliance — a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934 Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundation of the present Continent-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHERE?

There are units and members of Technocracy in almost every State and in every province in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces. Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the location of the nearest Technocracy unit.

WHO?

Technocracy was built in America by Americans. It is composed of American citizens of all walks of life. Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this Continent. Membership is open only to American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective office or active office in any political party.) Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher, or housewife—so long as you are a patriotic American—you are welcome in Technocracy.

The TECHNOCRAT

Offering to the American public a medium by which it can learn the facts regarding the transition period in which we are moving toward a New America of technological abundance.

PAMPHLETS

Introduction to Technocracy	25c	Continentalism—The Mandate of Survival	15c
Make Way for Social Change	15c	The Culture of Abundance	15c
Man Hours and Distribution	15c	'There'll Always be an England'	10c
The Energy Certificate	15c	'Our Country Right or Wrong'	15c
Science vs. Chaos	10c	America Must Show the Way	15c
		'The Sellout of the Ages'	10c

We have available additional copies of "Stampeding to Disaster," at 25 copies for $1; this timeless article is a good contact piece.

June, 1960 Whole No. 194

The TECHNOCRAT is published quarterly (Mar., June, Sept., Dec.) by a Managing Board at 8113 So. Vermont Ave., Los Angeles 44, Calif. Entered as second-class matter April 12, 1938, at the post office at Los Angeles, California, under the Act of March 3, 1879. The TECHNOCRAT is an authorized publication of Technocracy Inc., Howard Scott, Director-in-Chief, Rushland, Pennsylvania. Subscription rates: 25c a copy or 4 issues $1.00, payable in advance. Send all correspondence to (and make all checks and money orders payable to) The TECHNOCRAT, 8113 So. Vermont Avenue, Los Angeles 44, California.

Telephone PLeasant 1-0828

Not responsible for unsolicited manuscripts unless accompanied by return postage.
Entire contents copyrighted 1959 by the TECHNOCRAT.

SUBSCRIPTION ORDER

To: THE TECHNOCRAT
8113 So. Vermont Ave.
Los Angeles 44, Calif.

Enclosed herewith in $ ..... to cover subscription(s) to Technocracy Magazines for ..... years.

(All three publications are quarterlies, but so rotated that one appears each month.)

ALL THREE MAGAZINES—
☐ 12 issues (1 year), $3.00

THE TECHNOCRAT—

TECHNOCRACY DIGEST—

NORTHWEST TECHNOCRAT—

☐ This is a new Subscription.

☐ This is a renewal Subscription.

START WITH ..... ISSUE

Send to:

(Foreign rates, other than Canada, Mexico, and U. S. Territories 20% additional to above rates. Canadian orders payable in U. S. funds.)

The scientists, technologists, and engineers of this Continent are the general staff of the Technate of America, whether they like it or not. By their work ye shall know them, and the technicians of all branches have produced the works that are bringing about the demise of the Price System. This Continent's rendezvous with destiny prescribes that this scientific minority will become the substance and framework of the majority — the nucleus around which the mass movement of this Continent will consolidate its forces for integration into one geographical entity — one Continental control, one technological organism, one country, one people — one and indivisible.

—Howard Scott

— SECTION STAMP —